

STORMWATER MANAGEMENT PLAN

PROPOSED SENIORS LIVING DEVELOPMENT

No.37-43 HAY STREET, COLLARROY

GENERAL NOTES:

- THESE PLANS REMAIN THE PROPERTY OF NY CIVIL ENGINEERING PTY LTD AND ARE SUBJECT TO COPYRIGHT
- 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.
- 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.
- ALL WORKS SHALL BE CARRIED OUT TO LOCAL COUNCIL'S DEVELOPMENT CONTROL PLAN AND SPECIFICATIONS, AS/NZS 3500.3 AND B.C.A.
- 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.
- 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.
- 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.
- THE CONTRACTOR SHALL COMPLY WITH CONDITIONS, AND SPECIFICATION OF COUNCIL AND ALL ACTS OF THE NSW EPA.
- THE CONTRACTOR SHALL TAKE ALL REASONABLE CARE TO PROTECT EXISTING SERVICES. DAMAGED SERVICES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- ALL NEW WORK IS TO MAKE A SMOOTH JUNCTION WITH EXISTING WORK.
- SUITABLE WARNING SIGNS AND BARRICADES ARE TO BE PROVIDED IN ACCORDANCE WITH THE AUSTRALIAN STANDARDS AND AS DIRECTED BY THE RELEVANT AUTHORITY.
- 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.
- 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.
- RESTORE ALL AUTHORITY OWNED AREAS TO COUNCIL AND/OR AUTHORITY STANDARD AND SPECIFICATION.
- THE WORK AS CONSTRUCTED WORKS SHALL BE INSPECTED BY THE ENGINEER, MINIMUM 48 HOURS NOTICE SHALL BE PROVIDED FOR ALL INSPECTION REQUESTS.
- THE DESIGN PLANS HEREIN ARE SUBJECT TO COUNCIL APPROVAL PRIOR TO CONSTRUCTION.
- 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:

- ALL DOWN PIPES TO BE MINIMUM DN90 OR 100x50MM FOR GUTTERS SLOPE 1:500 AND STEEPER AS PER AS 3500.3 - 3.7.8
- 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.
- ALL DOWNPIPES TO BE FITTED VERTICALLY TO THE SOLE OF EAVES GUTTERS, RAINHEAD AND/OR SUMP.
- 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.
- ALL EAVES GUTTERS TO BE SIZED FOR ARI 20 - AS PER AS 3500.3 - 3.5 AND APPENDIX H.
- ROOF DRAINAGE INSTALLATION TO BE IN ACCORDANCE TO AS 3500.3 SECTION 4.

STORMWATER DRAINAGE NOTES:

- PIPE SIZE:**
- THE MINIMUM PIPE SIZE SHALL BE:
 - DN90 FOR ALL DOWNPIPES;
 - DN100 WHERE THE LINE ONLY RECEIVES ROOF STORMWATER RUNOFF, OR;
 - DN100 WHERE THE LINE RECEIVES RUNOFF FROM PAVED OR UNPAVED AREAS.
- PIPE GRADE:**
- THE MINIMUM PIPE GRADE SHALL BE:
 - FOR DN100 - DN150 - 1.00%
 - FOR DN225 - 0.50%
 - FOR DN300 - 0.45%
 - FOR DN375 - 0.35%
- STANDARD COVER:**
- MINIMUM PIPE COVER FOR PVC PIPES SHALL BE AS PER AS 3500.3 TABLE 6.2.5:
 - NOT SUBJECT TO VEHICULAR LOADING:
 - WITHOUT PAVEMENT SINGLE DWELLINGS - 100mm
 - WITHOUT PAVEMENT OTHER THAN SINGLE DWELLINGS - 300mm
 - WITH PAVEMENT (BRICK/PAVERS) AND/OR UNREINFORCED CONCRETE - 100mm
 - SUBJECT TO VEHICULAR LOADING:
 - ROADS (SEALED) - 600mm
 - ROADS (UNSEALED) - 750mm
 - OTHER THAN ROADS (WITH PAVEMENT) - 100mm
 - OTHER THAN ROADS (WITHOUT PAVEMENT) - 450mm
- PIPE INSTALLATION**
- PIPES AND FITTINGS FOR STORMWATER DRAINAGE SHALL BE AS FOLLOWS:
 - FOR PIPE SIZES UP TO DN225 - PVC WITH SOLVENT WELDED JOINTS (IN GROUND).
 - FOR PIPE SIZES GREATER THAN DN225 - RCP WITH RUBBER RING JOINTS.
 - FOR LARGER PIPE DEPTHS AS SPECIFIED IN AS 3500.3 - RCP WITH RUBBER RING JOINTS.
 - FOR PIPES AND FITTINGS FOR SUBSOIL DRAINAGE SHALL BE SLOTTED PVS WITH SOLVENT WELDED JOINTS MINIMUM DN150.
 - FOR GRATED DRAINS SHALL BE MINIMUM DN150 IN NON-TRAFFICABLE ZONES AND DN225 IN TRAFFICABLE ZONES.
 - LAY AND JOINT ALL PIPES IN ACCORDANCE WITH THE MANUFACTURING RECOMMENDATIONS AND:
 - AS 3725-1989 - LOADS ON BURIED CONCRETE PIPES
 - AS 2566 - 1988 - BURIED FLEXIBLE PIPELINES
 - AS 1597.2 - 1996 - PRECAST REINFORCED CONCRETE BOX CULVERTS
 - AS 3500 - 1990 NATIONAL PLUMBING AND DRAINAGE CODE - PART 2 SANITARY PLUMBING AND SANITARY DRAINAGE - SYDNEY WATER REQUIREMENTS.
 - 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		GRADED 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	
GRATE LEVEL = 75.50	SL 75.50	STORMWATER PIPE 100mm DIA. MIN. UNO	
INVERT LEVEL = RL 75.20	IL 75.20	SUBSOIL PIPE	
PROPOSED DOWNPIPE 90mm DIA. OR 100mm x 50mm MIN.		EXISTING STORMWATER PIPE	
NATURAL GROUND FINISHED DESIGN LEVEL		INSPECTION RISER	
PIPE FROM ABOVE		RAINWATER HEAD	
SLAB PENETRATION		PIPE STRAPPED TO CEILING	
		65mm CAST IN PIPE	
		65mm CLASS 12 PRESSURE PIPE	

STORMWATER PIT/STRUCTURES NOTES:

PIT SIZES AND DEPTHS:

- 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:

- 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.
- 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.
- PLASTIC/PVC PITS: PVC PITS WILL ONLY BE PERMITTED IF THEY ARE MAX. 450x450 AND MAX. 450mm DEPTH AS WELL AS BEING HEAVY DUTY.
- 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.
- 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:

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

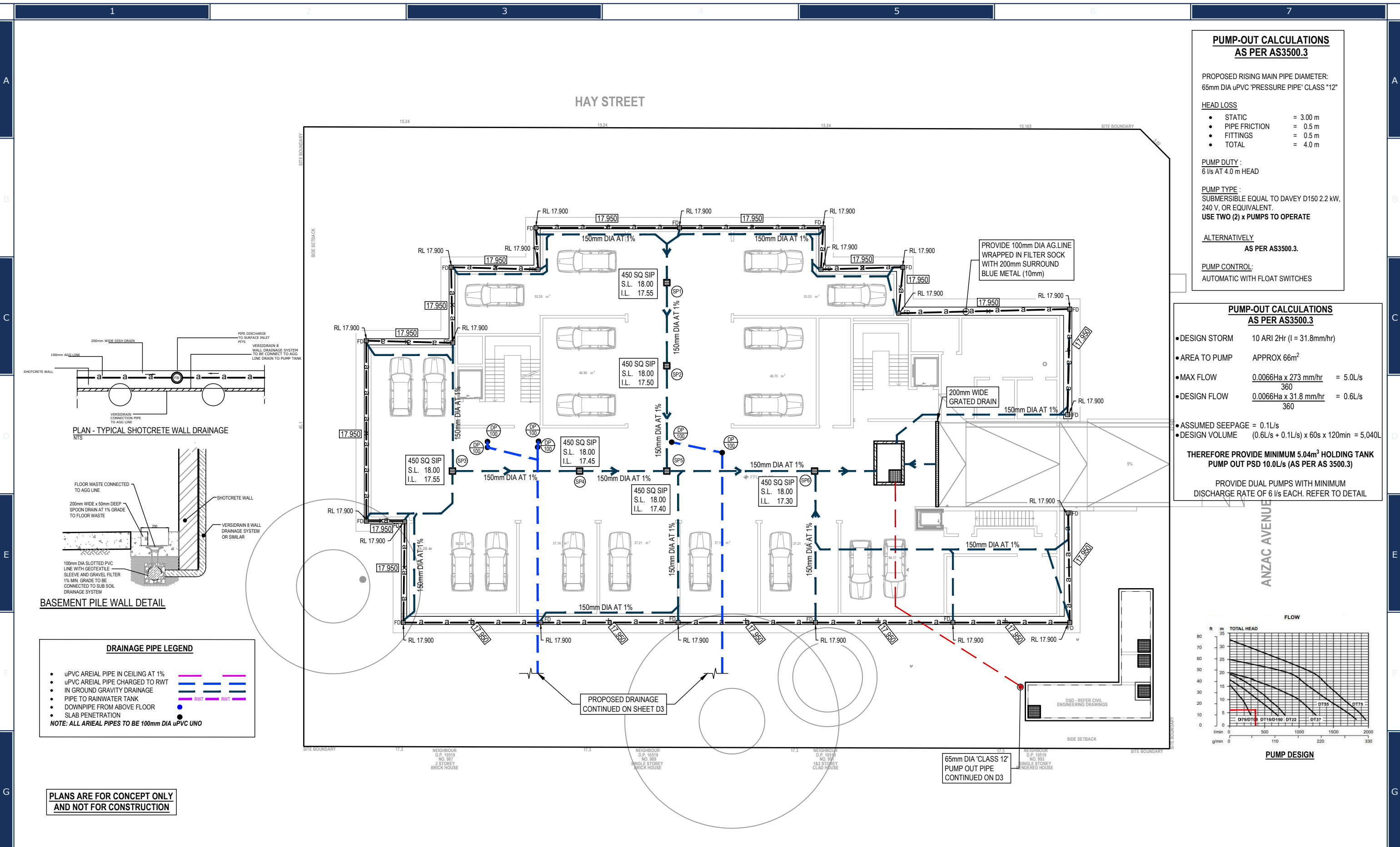


APPROVED BY	REVISION	DRAWN	DESCRIPTION	DATE
NADER ZAKI MIEAust CPEng NER 0413 942 613 admin@nycivilengineering.com.au www.nycivilengineering.com.au	E	MR	ISSUED FOR DA	6.03.2024
	F	MR	UPDATED DRIVEWAY PLANS	22.03.2024
	G	MR	UPDATED ARCHITECTURAL PLANS	09.04.2024
	H	MR	UPDATED ARCHITECTURAL PLANS	16.07.2024

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DRAWING TITLE
GENERAL NOTES
PROJECT TITLE
PROPOSED SENIORS LIVING DEVELOPMENT No.37-43 HAY STREET COLLARROY

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



**PUMP-OUT CALCULATIONS
AS PER AS3500.3**

PROPOSED RISING MAIN PIPE DIAMETER:
65mm DIA uPVC 'PRESSURE PIPE' CLASS "12"

- 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.

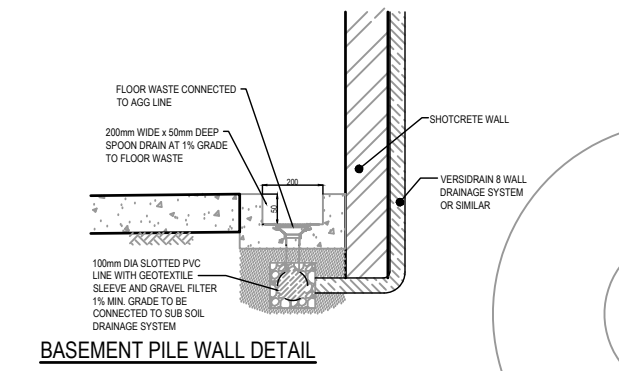
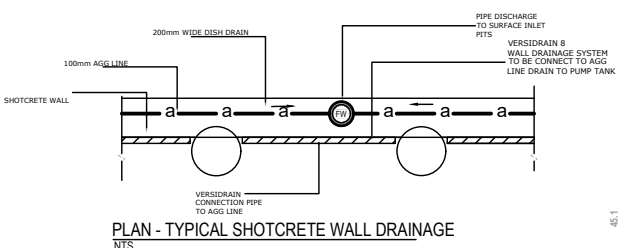
PUMP CONTROL:
AUTOMATIC WITH FLOAT SWITCHES

**PUMP-OUT CALCULATIONS
AS PER AS3500.3**

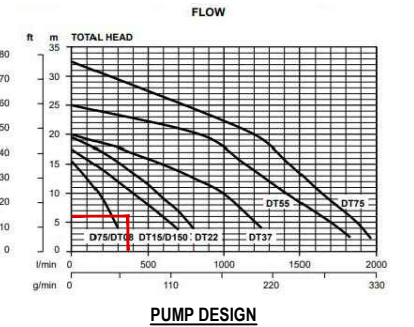
- DESIGN STORM 10 ARI 2Hr (I = 31.8mm/hr)
- AREA TO PUMP APPROX 66m²
- MAX FLOW $\frac{0.0066\text{Ha} \times 273 \text{ mm/hr}}{360} = 5.0\text{L/s}$
- DESIGN FLOW $\frac{0.0066\text{Ha} \times 31.8 \text{ mm/hr}}{360} = 0.6\text{L/s}$
- ASSUMED SEEPAGE = 0.1L/s
- DESIGN VOLUME (0.6L/s + 0.1L/s) x 60s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



- 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 AREIAL PIPES TO BE 100mm DIA uPVC UNO**



**PLANS ARE FOR CONCEPT ONLY
AND NOT FOR CONSTRUCTION**



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DRAWING TITLE
BASEMENT PLAN

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

SHEET SIZE	A3	JOB REFERENCE	E230197
DESIGNED	NZ	DRAWING No.	D2
CHECKED	NZ	No. IN SET	13
ISSUE	H		
SCALE	1:200		

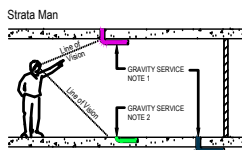
OSD CALCULATION SUMMARY			
STORM (AEP)	1%	5%	20%
PRE-DEVELOPMENT STATE PSD (L/s)	147	106	67
POST DEVELOPMENT OSD DISCHARGE (L/s)	66	65	65
POST DEVELOPMENT (L/s) (BYPASSING OSD)	0	0	0
OSD VOLUME (m ³)	50.4	24.2	4.8

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

DRAINAGE PIPE LEGEND	
• uPVC AREAL PIPE IN CEILING AT 1%	
• uPVC AREAL PIPE CHARGED TO RWT	
• IN GROUND GRAVITY DRAINAGE	
• DRAINAGE PIPES TO RWT	

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

NOTE: ALL GRATED DRAINS ARE TO BE 150mm WIDE U.N.O

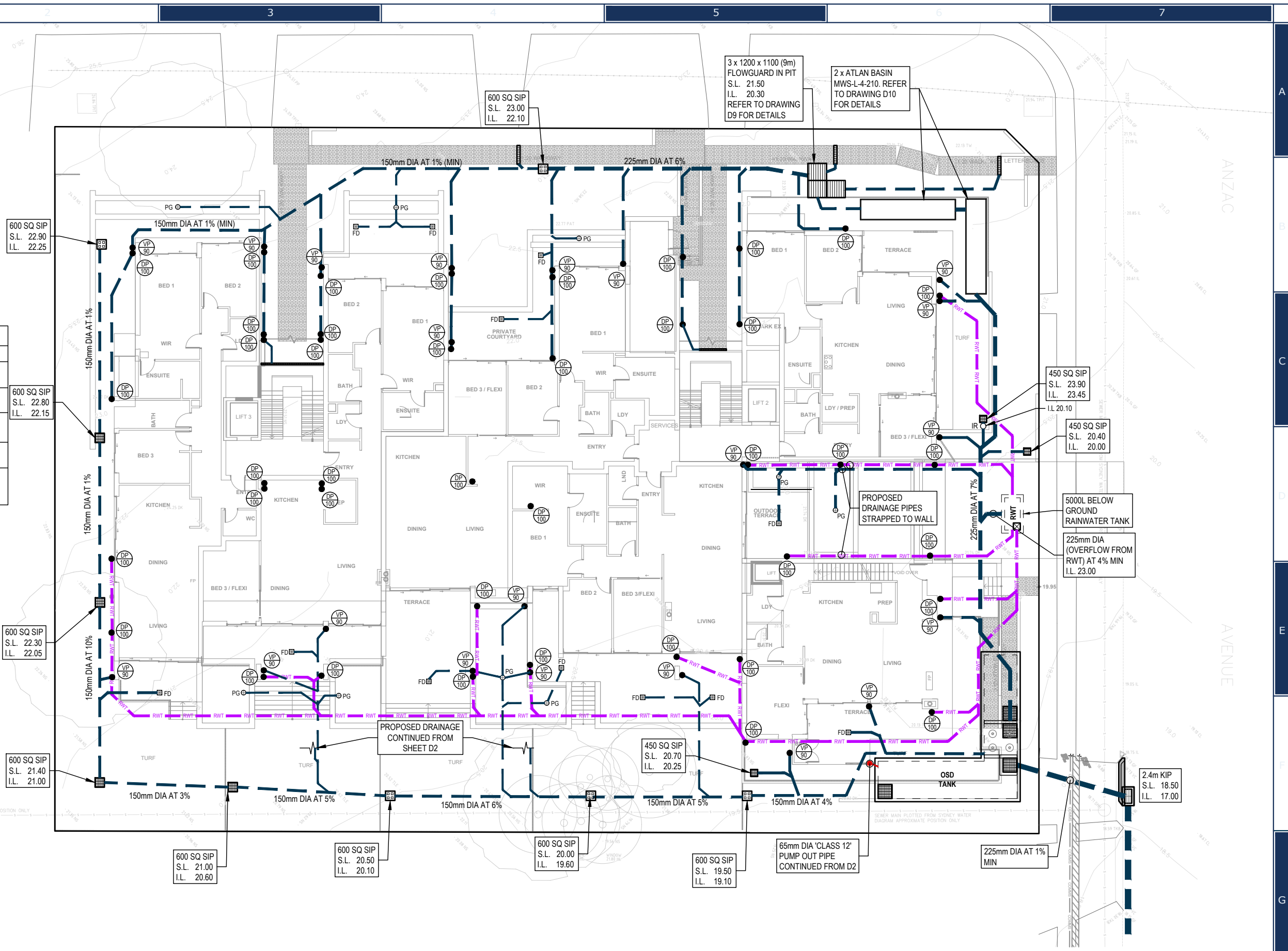


NOTES

1. GRAVITY SERVICES ARE SHOWN IN STRATA UNLESS NOTED OTHERWISE

2. GRAVITY CAST INTERSERVICES ARE SHOWN OUT OF STRATA UNLESS NOTED OTHERWISE

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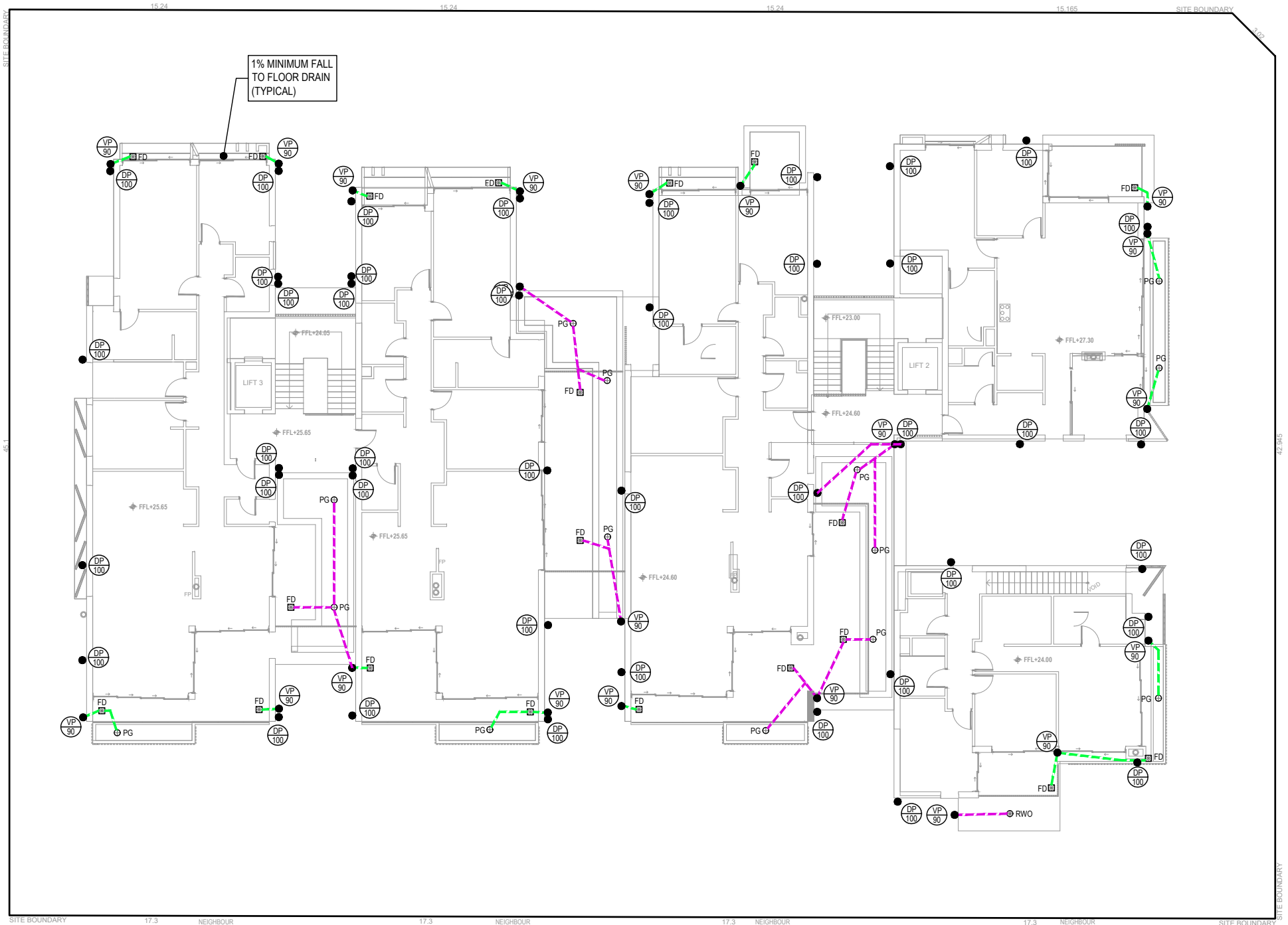
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DRAWING TITLE
GROUND FLOOR PLAN

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

SHEET SIZE	A3	JOB REFERENCE	E230197
DESIGNED	NZ	DRAWING No.	D3
CHECKED	NZ	No. IN SET	13
ISSUE	H		
SCALE	1:250		

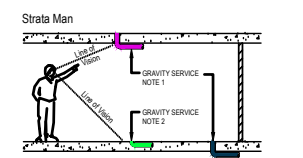


NOTE: ENSURE ALL BALCONIES TO HAVE A Ø50 OVERFLOW PIPES

DRAINAGE PIPE LEGEND

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


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



NOTES

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- GRAVITY CAST INSERVICES ARE SHOWN OUT OF STRATA UNLESS NOTED OTHERWISE



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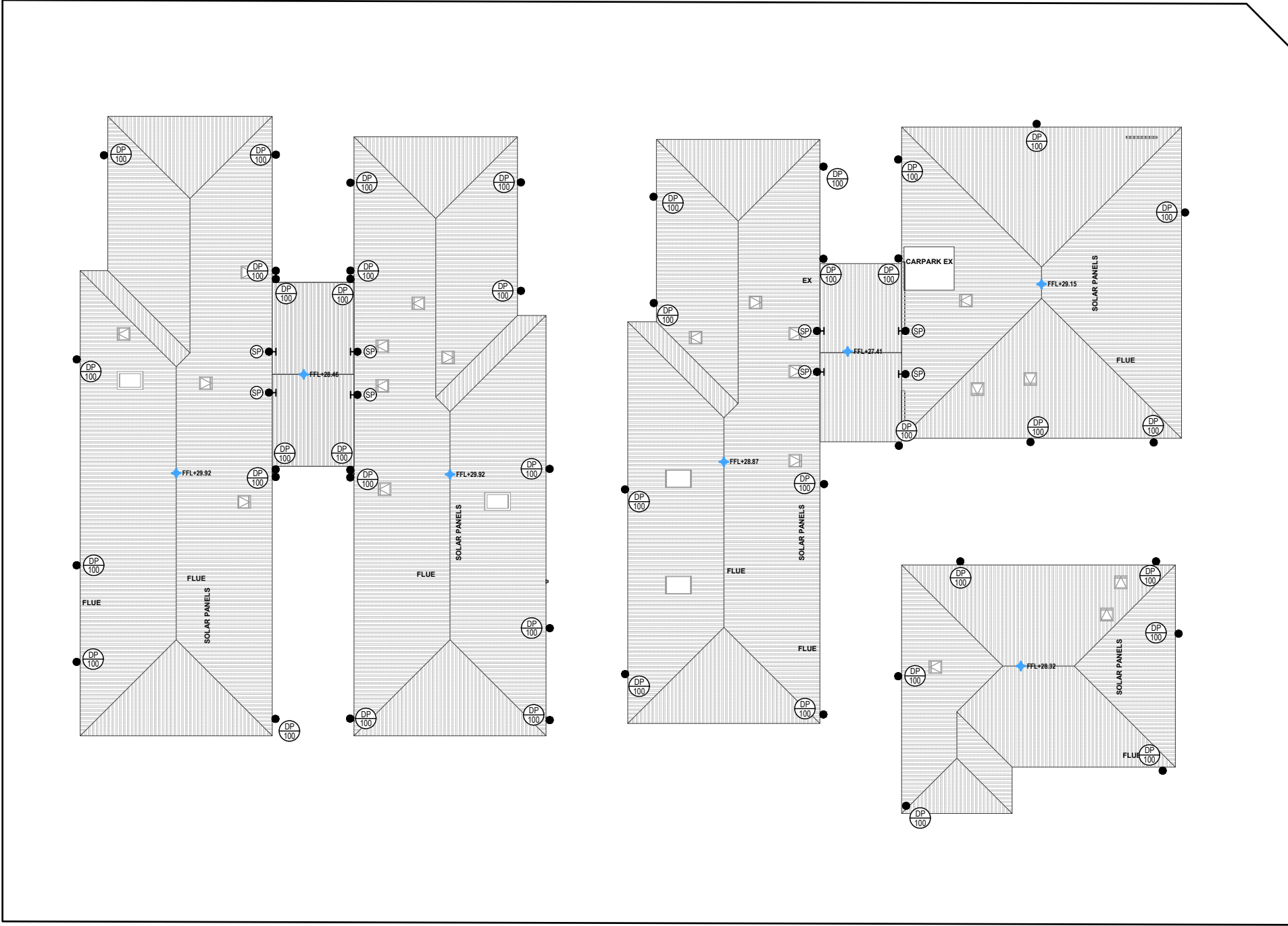
DRAWING TITLE	
LEVEL 02 PLAN	
PROJECT TITLE	
PROPOSED SENIORS LIVING DEVELOPMENT No.37-43 HAY STREET COLLARROY	

SHEET SIZE	A3	JOB REFERENCE	E230197
DESIGNED	NZ	DRAWING No.	D4
CHECKED	NZ	No. IN SET	13
ISSUE	H		
SCALE	1:250		

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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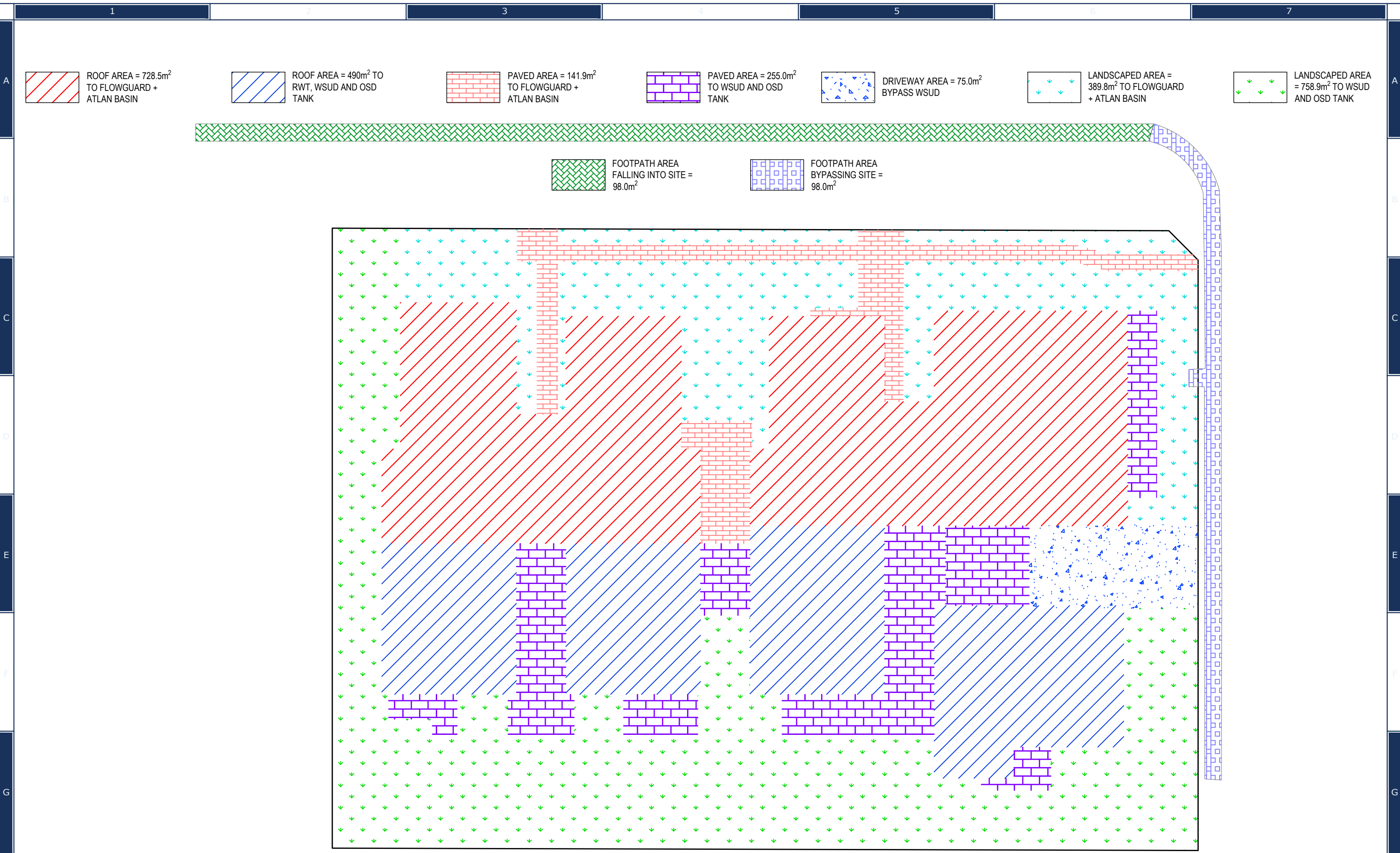
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ROOF PLAN

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

SHEET SIZE	A3	JOB REFERENCE	E230197
DESIGNED	NZ	DRAWING No.	D5
CHECKED	NZ	No. IN SET	13
ISSUE	H		
SCALE	1:250		



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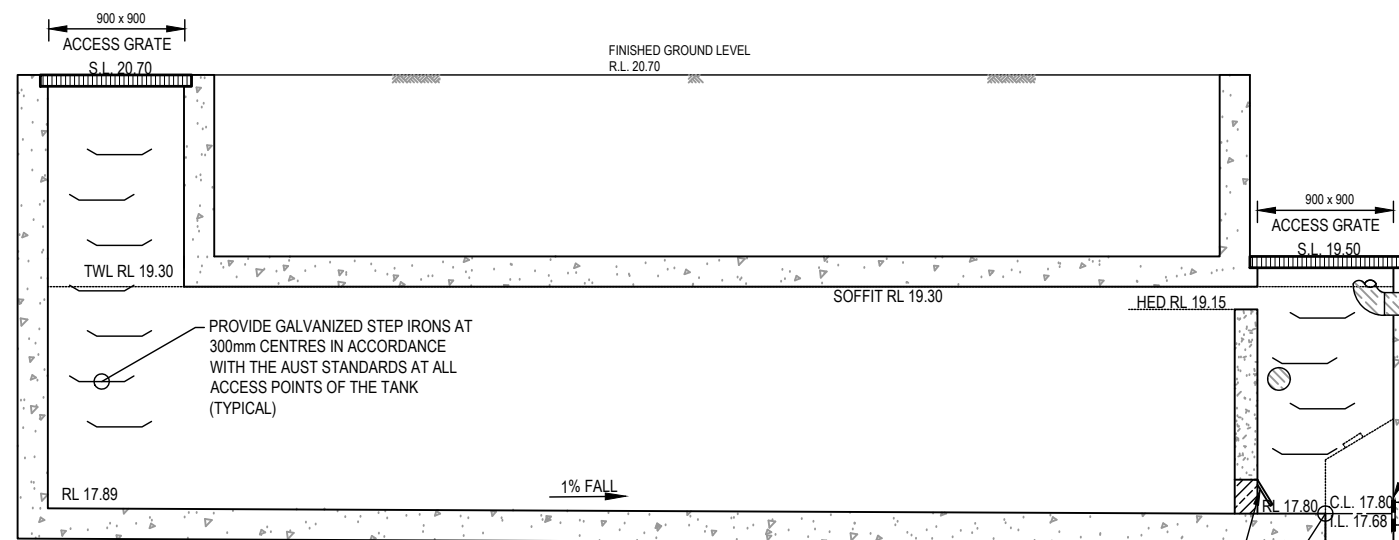
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DRAWING TITLE
WSUD/OSD CATCHMENT PLAN

PROJECT TITLE
**PROPOSED SENIORS LIVING DEVELOPMENT
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 COLLAROY**

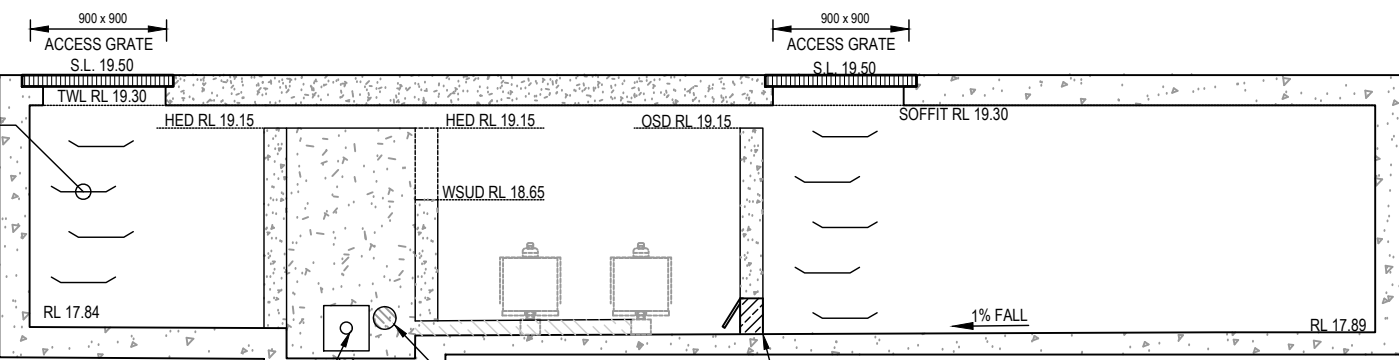
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CHECKED	NZ	No. IN SET	13
ISSUE	H		
SCALE	1:50		



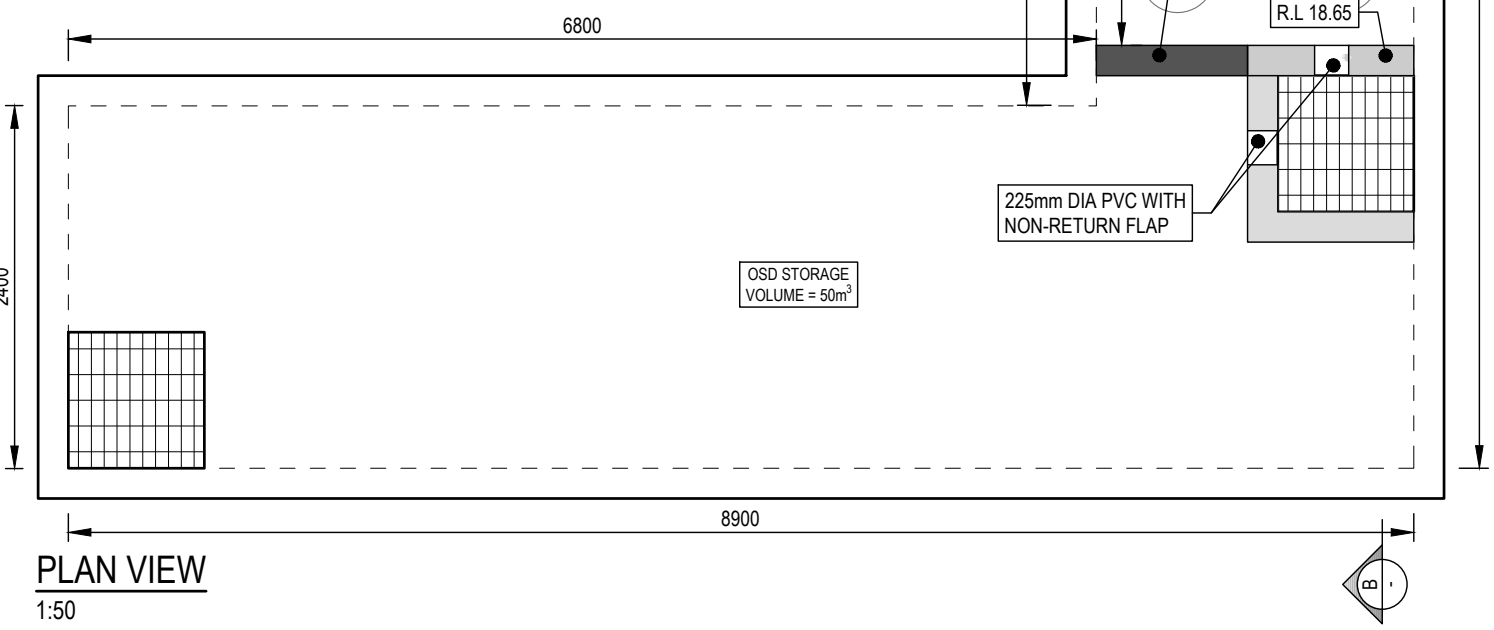
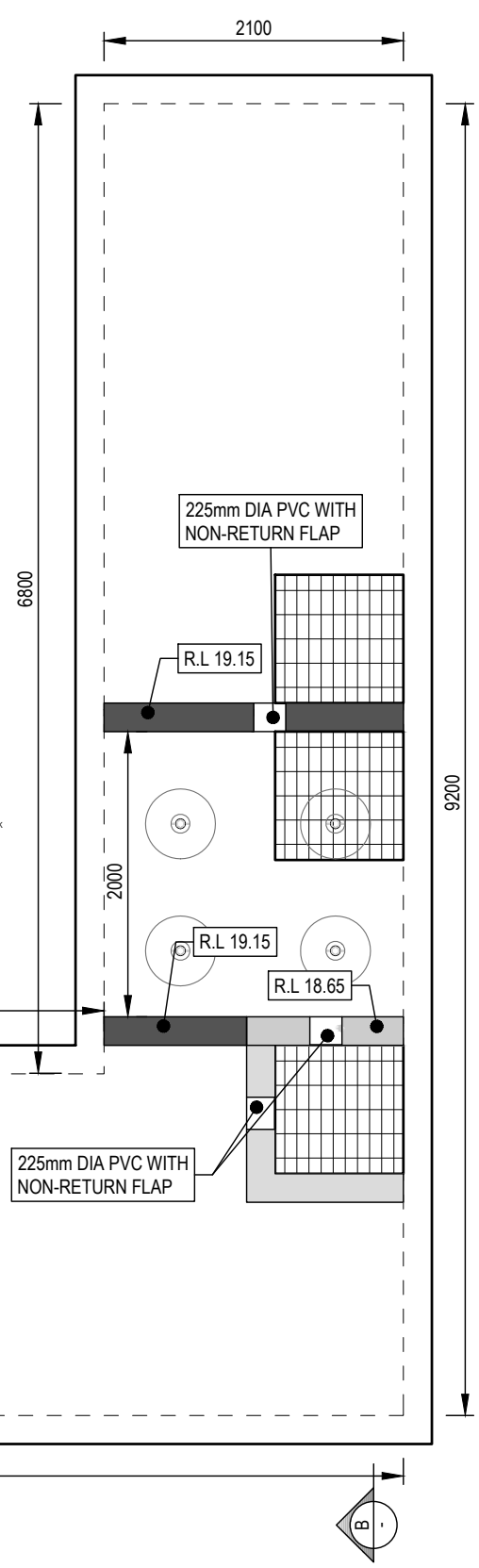
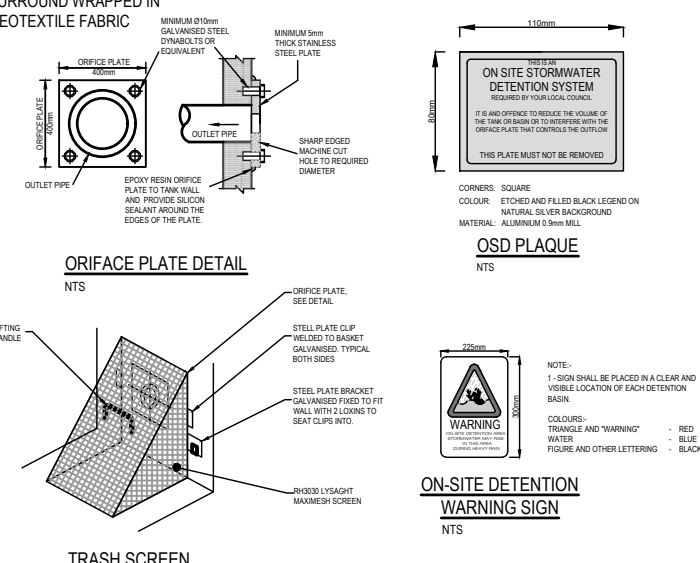
OVERFLOW WEIR CALCULATIONS - 'WSUD OVER FLOW WEIR'

AREA TO HED CHAMBER = 2,756m²
 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 A
1:50



SECTION B
1:50



PLAN VIEW
1:50



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



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

OSD PLAQUE
NTS



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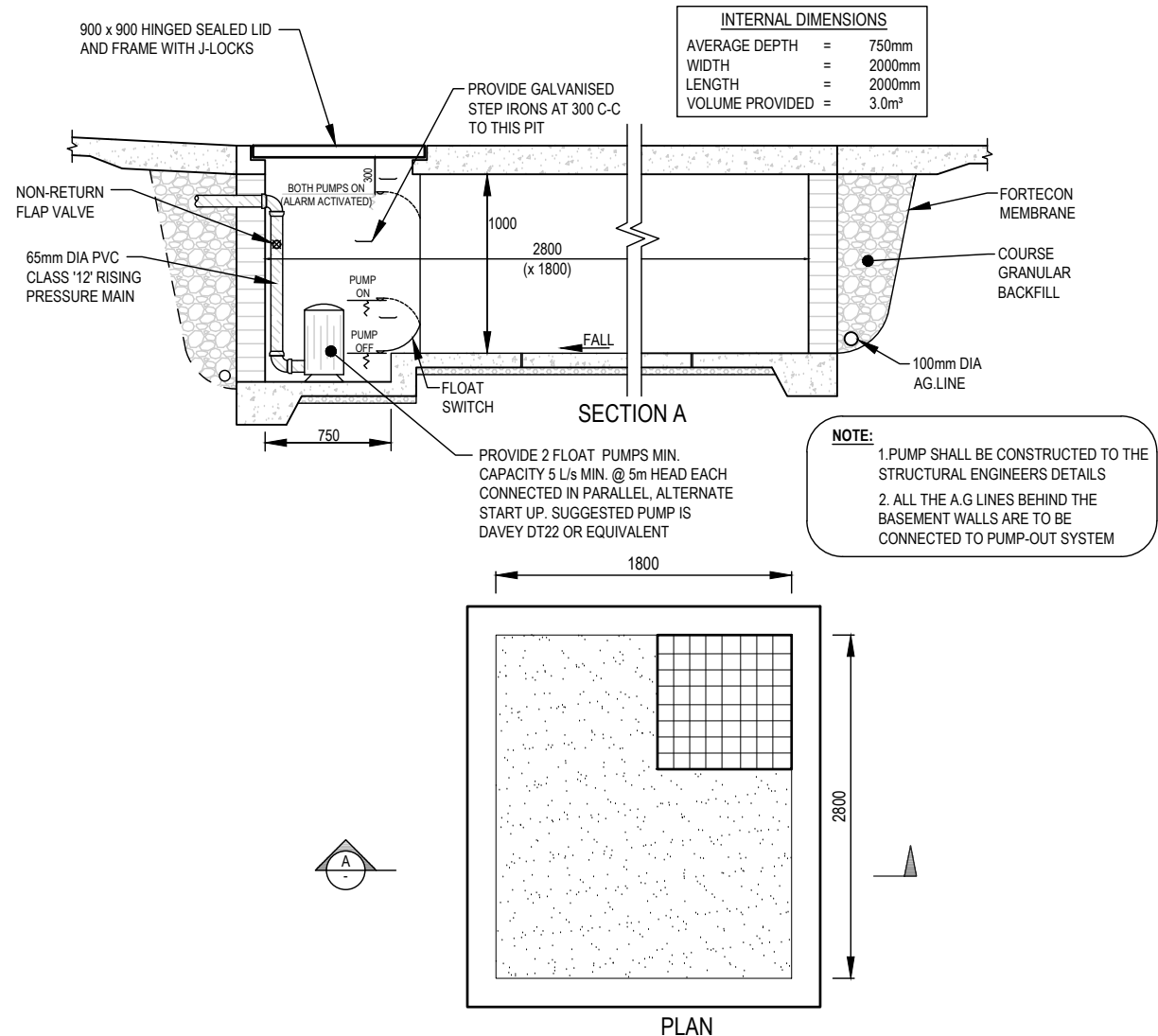
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DRAWING TITLE	
OSD DETAILS	
PROJECT TITLE	
PROPOSED SENIORS LIVING DEVELOPMENT No.37-43 HAY STREET COLLARROY	

SHEET SIZE	A3	JOB REFERENCE	E230197
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CHECKED	NZ	No. IN SET	13
ISSUE	H		
SCALE	1:50		



INTERNAL DIMENSIONS

AVERAGE DEPTH	=	750mm
WIDTH	=	2000mm
LENGTH	=	2000mm
VOLUME PROVIDED	=	3.0m³

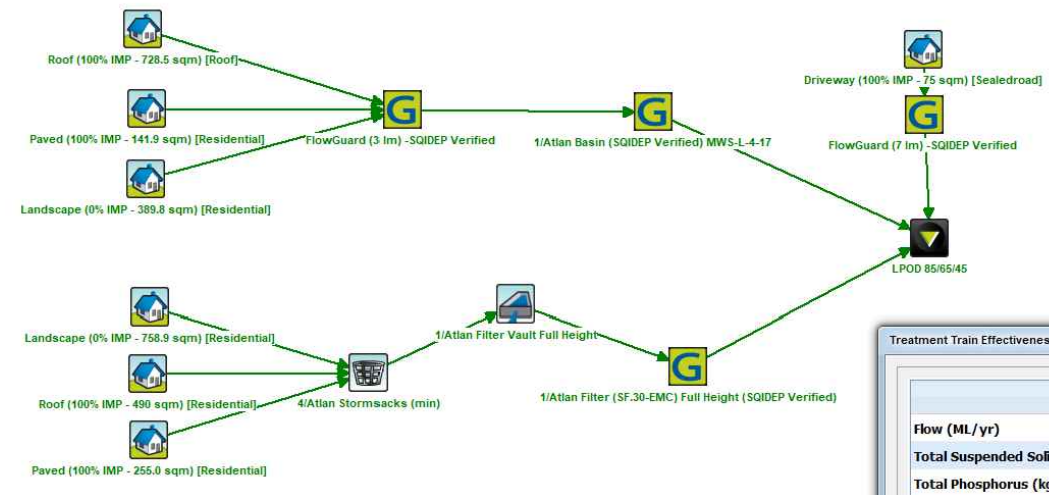
NOTE:
 1. PUMP SHALL BE CONSTRUCTED TO THE STRUCTURAL ENGINEERS DETAILS
 2. ALL THE A.G LINES BEHIND THE BASEMENT WALLS ARE TO BE CONNECTED TO PUMP-OUT SYSTEM

PUMP HOLDING TANK (TYPICAL)

NTS

STANDARD PUMP OUT DESIGN NOTES:

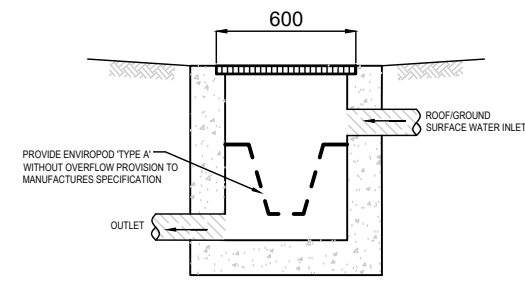
- THE PUMP OUT SYSTEM SHALL BE DESIGNED TO OPERATE IN THE FOLLOWING MANNER-
- THE PUMPS SHALL BE PROGRAMMED TO WORK ALTERNATELY SO AS TO ALLOW BOTH PUMPS TO HAVE AN EQUAL OPERATION LOAD AND PUMP LIFE.
 - A LOW LEVEL FLOAT SHALL BE PROVIDED TO ENSURE THAT THE MINIMUM REQUIRED WATER LEVEL IS MAINTAINED 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 SHALL 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



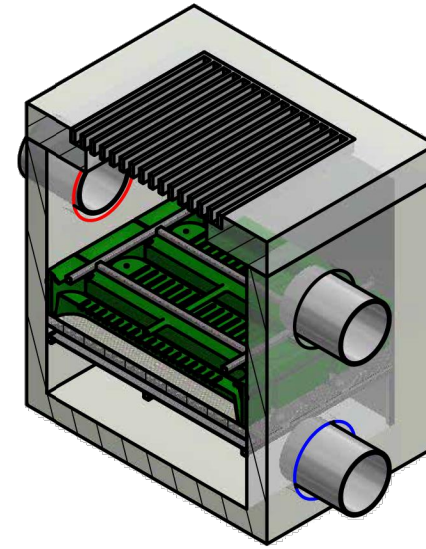
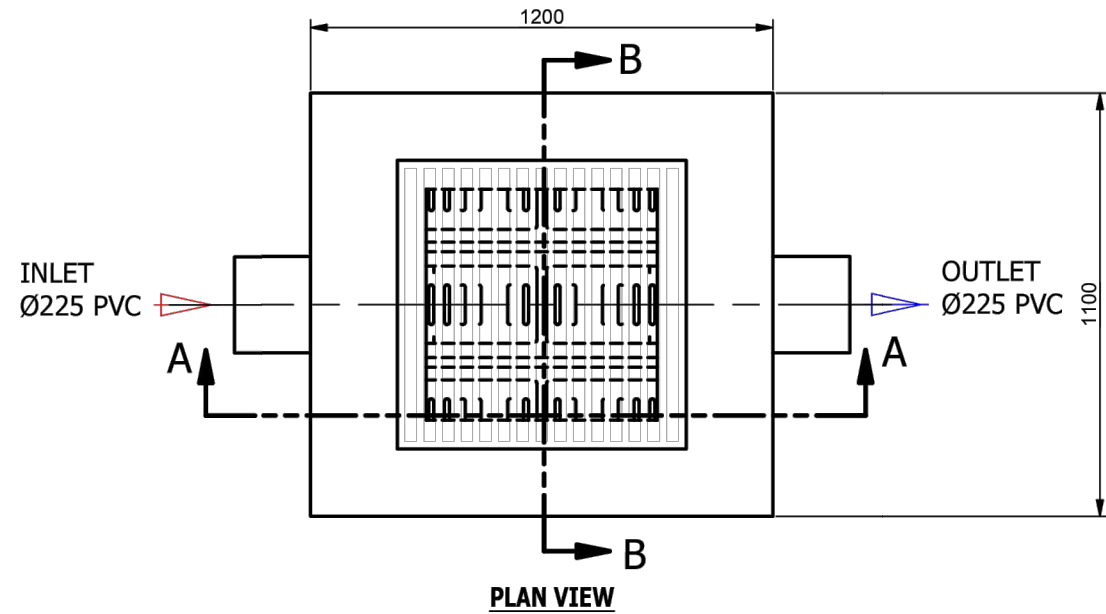
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REVISION	DRAWN	DESCRIPTION	DATE
E	MR	ISSUED FOR DA	6.03.2024
F	MR	UPDATED DRIVEWAY PLANS	22.03.2024
G	MR	UPDATED ARCHITECTURAL PLANS	09.04.2024
H	MR	UPDATED ARCHITECTURAL PLANS	16.07.2024

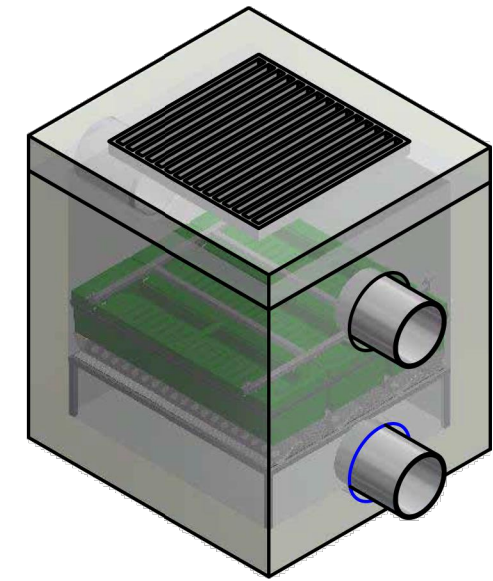
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STORMWATER DETAILS

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

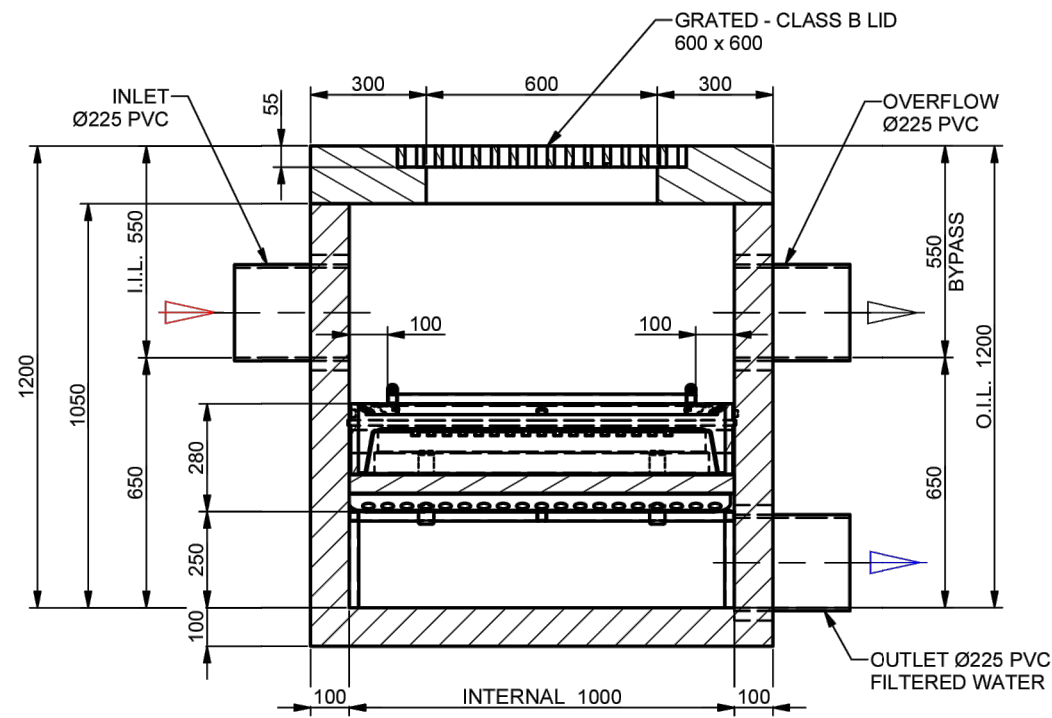
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DESIGNED	NZ	DRAWING No.	D8
CHECKED	NZ	No. IN SET	13
ISSUE	H		
SCALE	1:50		



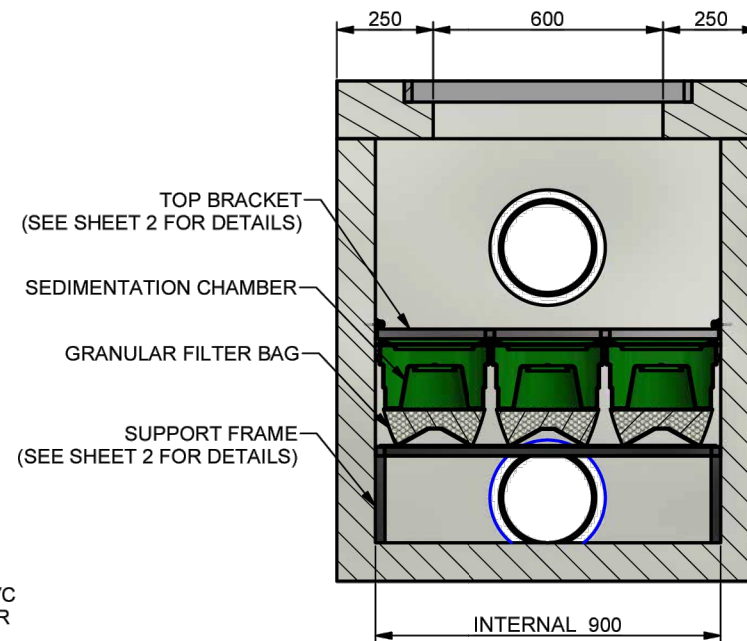
ISOMETRIC VIEW OF SECTION A-A



ISOMETRIC VIEW

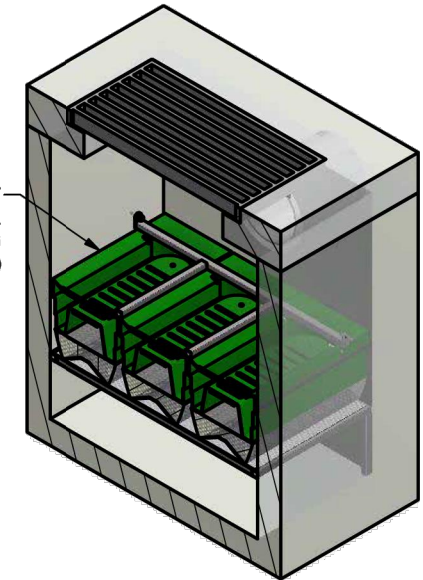


SECTION A-A



SECTION B-B

3 OFF
SPEL HYDROCHANNEL
INCLUDED MEDIA BAG
(STOCK CODE: SHCP-3)



ISOMETRIC VIEW OF SECTION B-B

ISSUE FOR APPROVAL
NOT FOR CONSTRUCTION

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



PROJECT			
TITLE SPEL HYDROCHANNEL IN CONCRETE PIT 3 HYDROCHANNEL - 450 L/S CONCRETE PIT - 1050 DEEP - CLASS B GENERAL ARRANGEMENT			
SCALE N.T.S	SIZE A3	SHEET 1	REV 4
CUSTOMER CODE : DWG No.		SP20-HC14460-P	



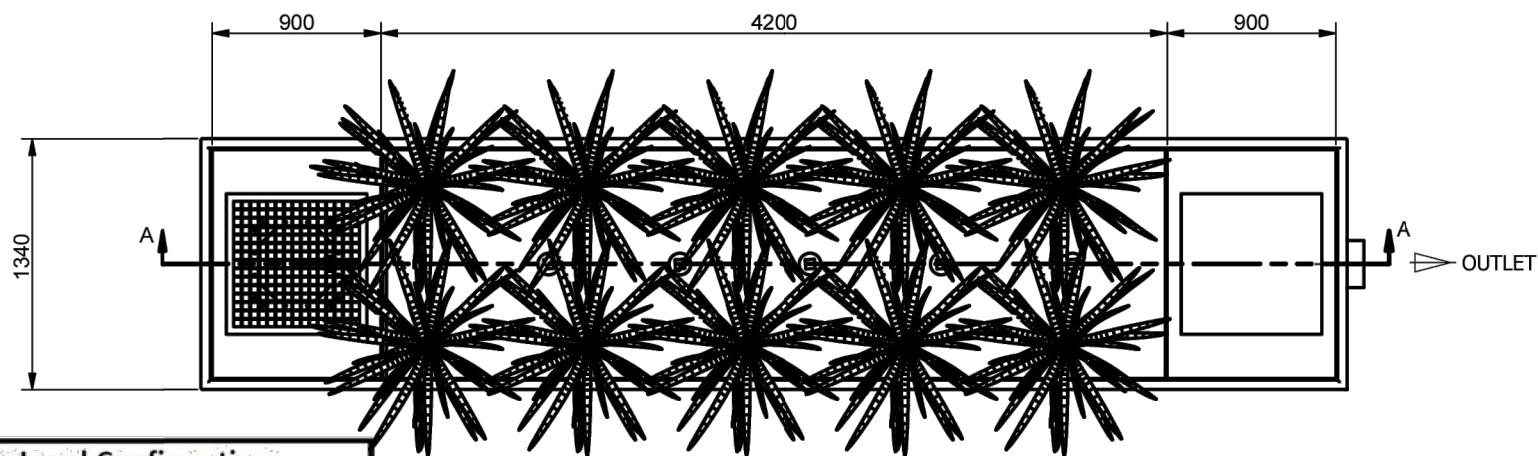
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H	MR	UPDATED ARCHITECTURAL PLANS	16.07.2024

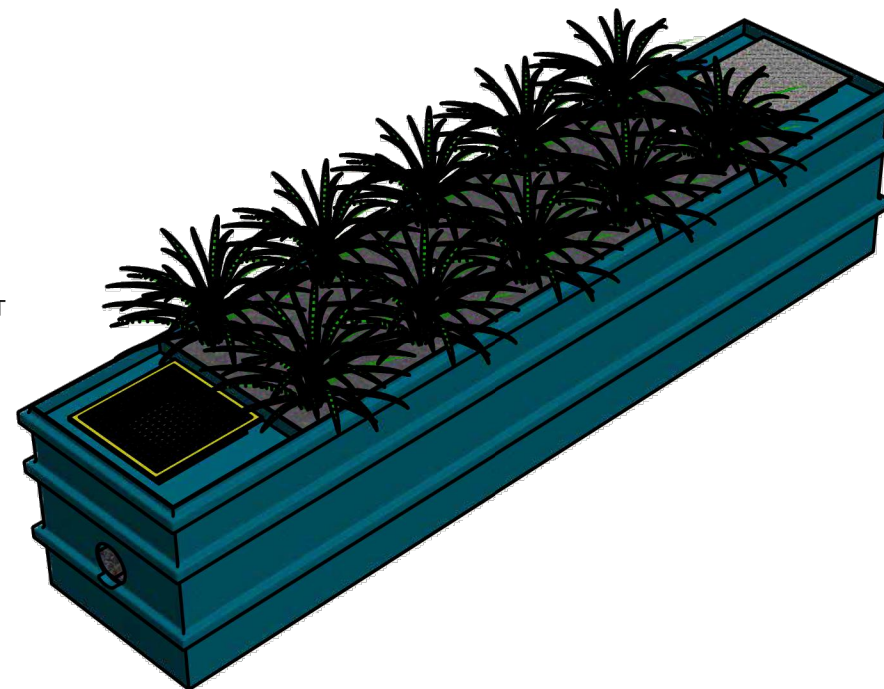
DRAWING TITLE
ATLAN HYDROCHANNEL DETAILS
PROJECT TITLE
**PROPOSED SENIORS LIVING DEVELOPMENT
No.37-43 HAY STREET
COLLARROY**

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

JOB REFERENCE	E230197
DRAWING No.	D9
No. IN SET	13

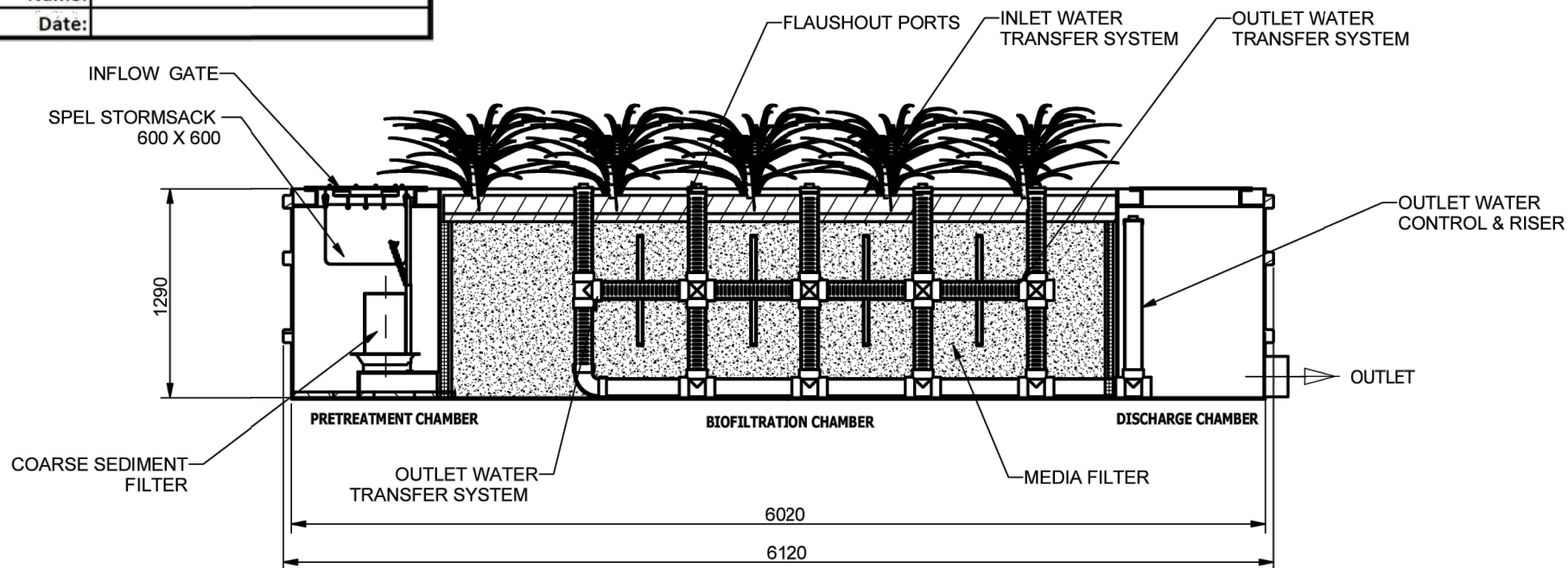


PLAN VIEW

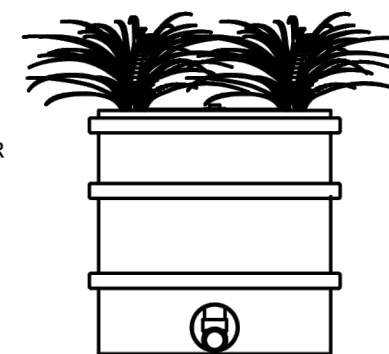


ISOMETRIC VIEW

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

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1 INITIAL RELEASE M.MAKIN 13/04/2021				Request No. RN3345				Verified Date		TITLE SPEL BASIN MODULAR WETLAND SYSTEM 2.0 MWS-L-4-21 - 10 LPS - SPEL STORMSACK GENERAL ARRANGEMENT			
2 REV DESCRIPTION DESIGNER DATE CHECKED BY				Approved Date				SCALE N.T.S		SIZE A3			
SHEET 1				Request No. RN3345				SHEET 1		REV 1			
CUSTOMER CODE : 16385-TD				DWG No. SP21-MB19950-S				SCALE 1:50		SHEET SIZE A3			



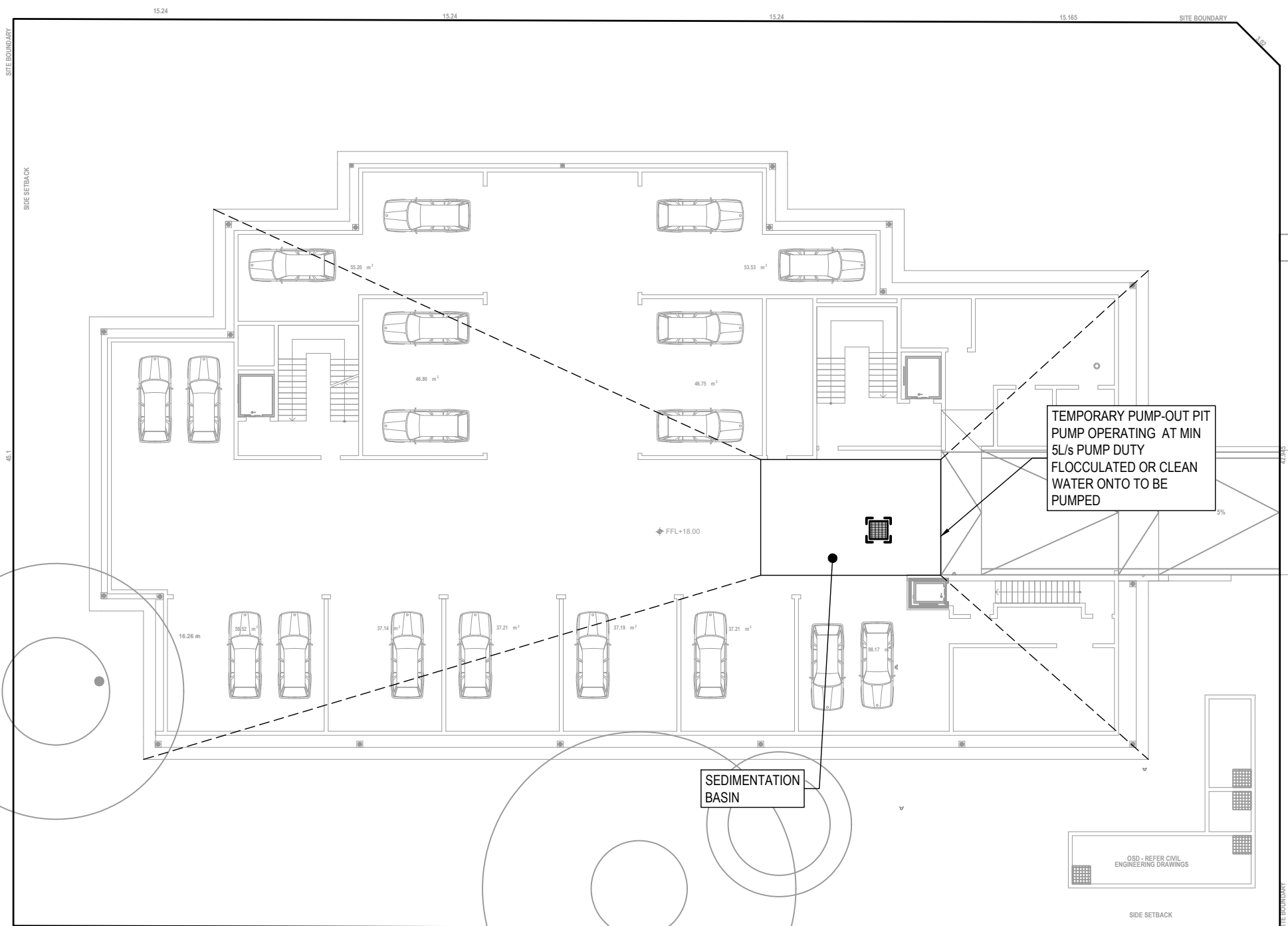
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H	MR	UPDATED ARCHITECTURAL PLANS	16.07.2024

DRAWING TITLE
ATLAN BASIN DETAIL
PROJECT TITLE
**PROPOSED SENIORS LIVING DEVELOPMENT
No.37-43 HAY STREET
COLLARROY**

SHEET SIZE	A3	JOB REFERENCE	E230197
DESIGNED	NZ	DRAWING No.	D10
CHECKED	NZ	No. IN SET	13
ISSUE	H		
SCALE	1:50		

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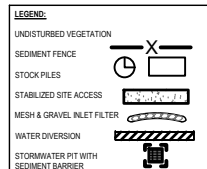


TEMPORARY PUMP-OUT PIT
PUMP OPERATING AT MIN
5L/s PUMP DUTY
FLOCCULATED OR CLEAN
WATER ONTO TO BE
PUMPED

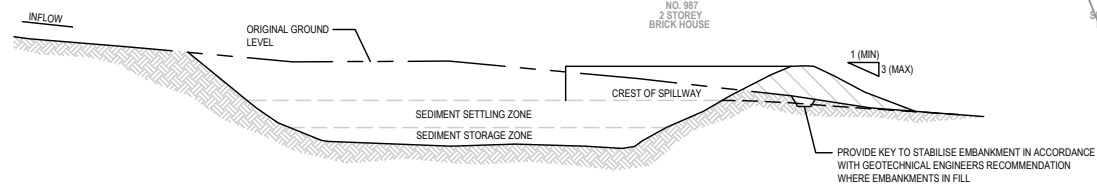
SEDIMENTATION
BASIN

DUST CONTROL
NOTE: DURING EXCAVATION, DEMOLITION AND CONSTRUCTION, ADEQUATE MEASURES SHALL BE TAKEN TO PREVENT DUST FROM AFFECTING THE AMENITY OF THE NEIGHBOURHOOD.
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, SPILL 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 SWEEP DAILY AS REQUIRED BY COUNCIL.
5. IF YOU DO NOT COMPLY WITH COUNCIL REQUIREMENTS & DOCUMENTATION, YOU MAY BE LIABLE TO PROSECUTION FROM GOVERNMENT AUTHORITIES.



SEDIMENTATION BASIN CALCULATIONS - BLUE BOOK
ASSUMED
- GREATER THAN 6 MONTH CONSTRUCTION
- SOIL TYPE C
- SETTLING ZONE REQUIRED = $10 \times C_s \times A \times R_v$
= $10 \times 0.58 \times 0.28 \text{Ha} \times 44$
= 71m^3
SITE CONSIDERED 'LOW EROSION RISK' - THEREFORE BASIN TO BE 50% VOLUME OF SETTLING ZONE
PROVIDE 106m³ SEDIMENTATION BASIN TO SITE
SLOPE = 3%
R FACTOR = 3500 (APPENDIX B, MAP 13)
C_s (APPENDIX F - TABLE F.3) = 0.58
R_v (TABLE 6.3b) = 65TH PERCENTILE 5-DAY RAINFALL MOANVALE = 44mm



CROSS SECTION OF TEMPORARY SEDIMENT BASIN
IN ACCORDANCE WITH LANDCOM 'BLUE BOOK' EARTH BASIN - WET SD 6-4
N.T.S.

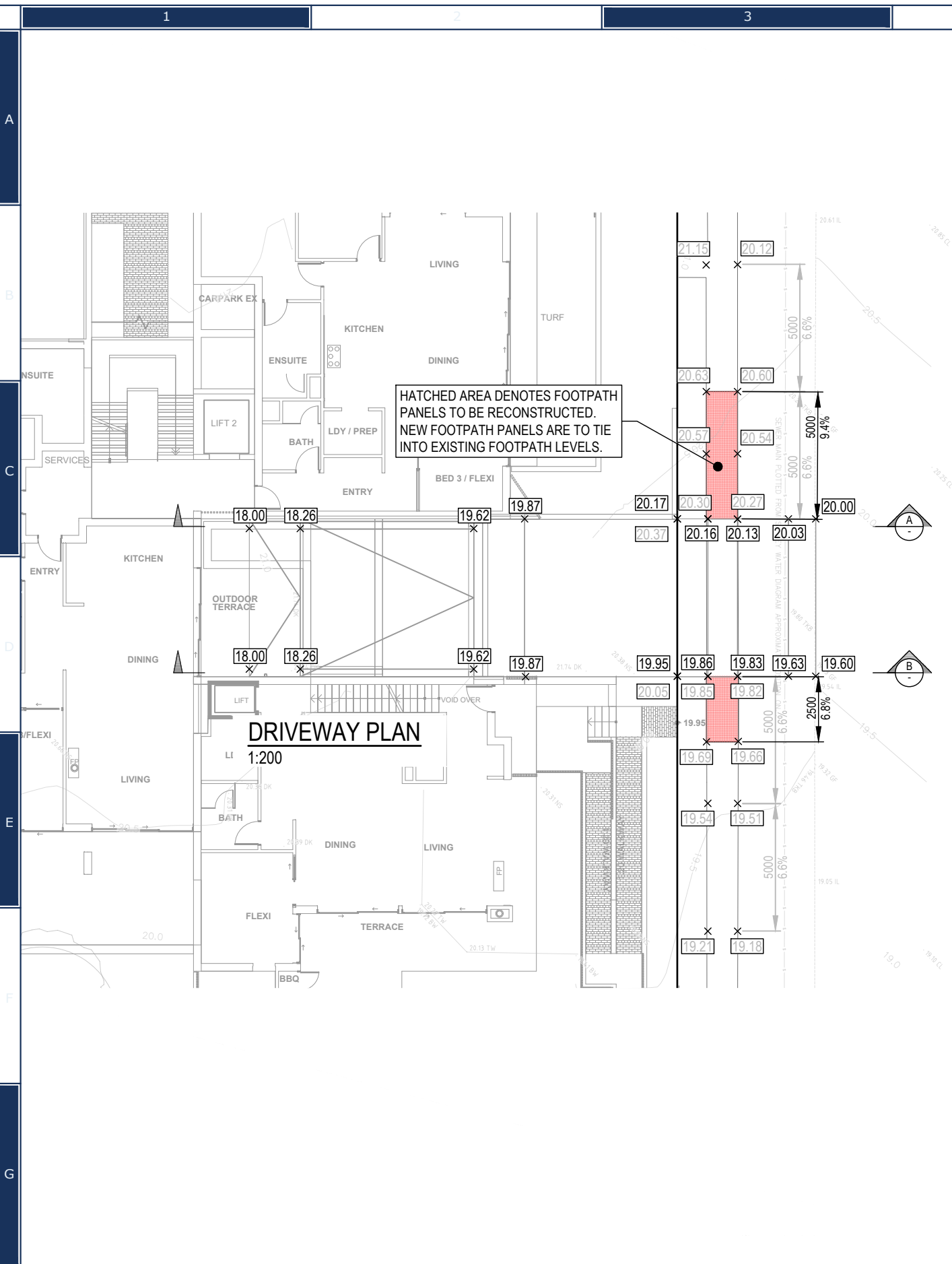


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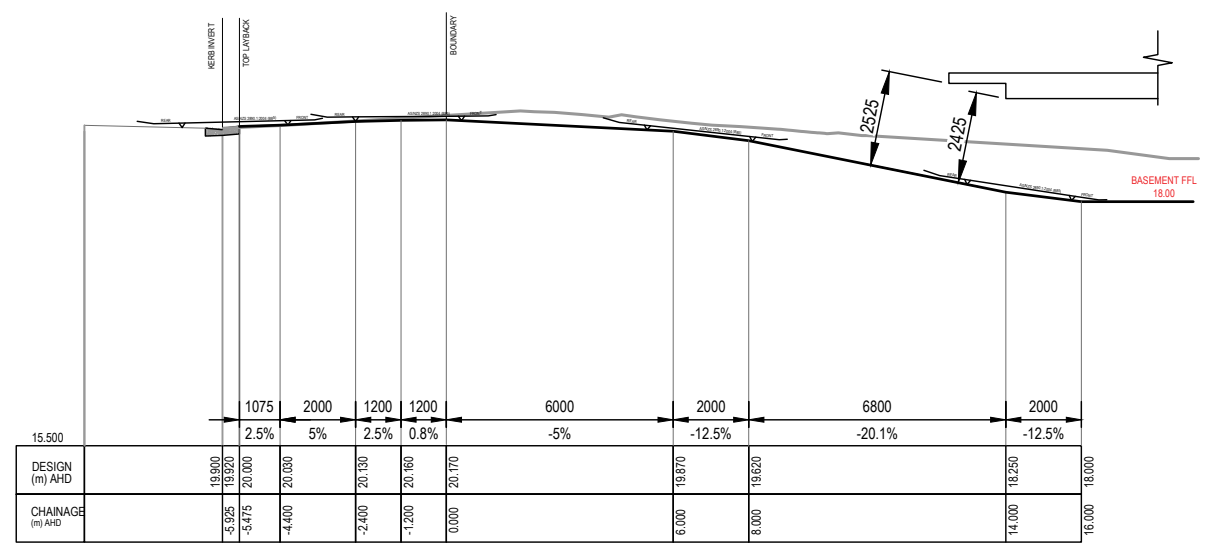
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H	MR	UPDATED ARCHITECTURAL PLANS	16.07.2024

DRAWING TITLE
DRIVEWAY SECTION
PROJECT TITLE
**PROPOSED SENIORS LIVING DEVELOPMENT
No.37-43 HAY STREET
COLLARROY**

SHEET SIZE	A3	JOB REFERENCE	E230197
DESIGNED	NZ	DRAWING No.	D11
CHECKED	NZ	No. IN SET	13
ISSUE	H		
SCALE	1:250		

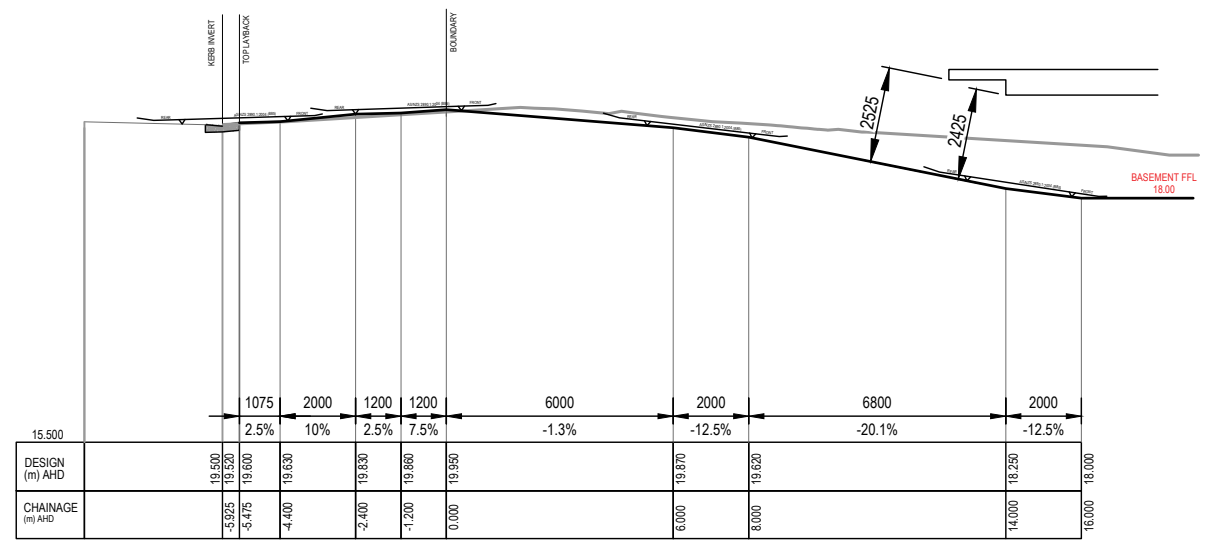


AVENUE



DRIVEWAY LONGSECTION A

HORIZONTAL 1:200
VERTICAL 1:200



DRIVEWAY LONGSECTION B

HORIZONTAL 1:200
VERTICAL 1:200



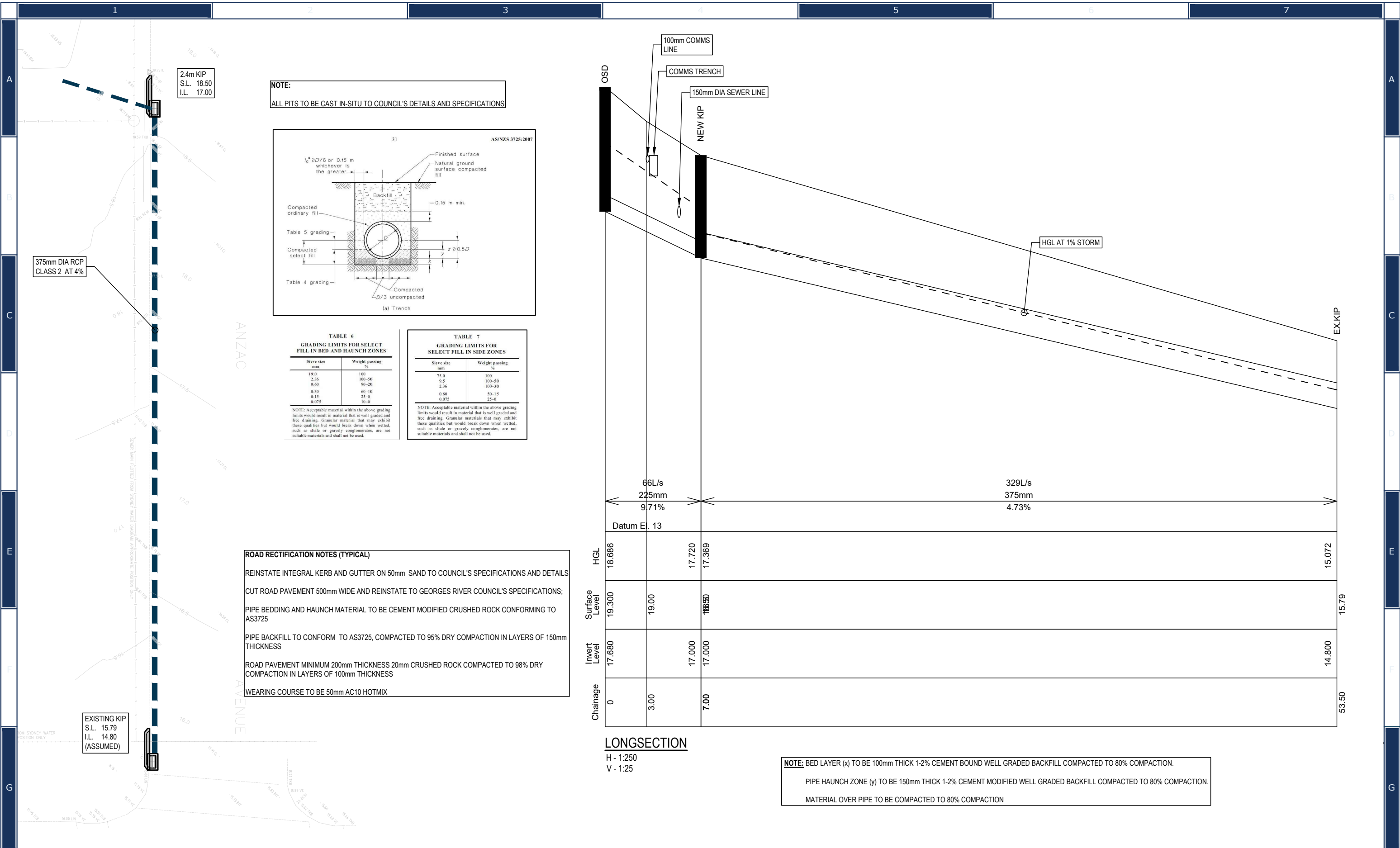
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DRAWING TITLE	
DRIVEWAY SECTION	
PROJECT TITLE	
PROPOSED SENIORS LIVING DEVELOPMENT No.37-43 HAY STREET COLLARROY	

SHEET SIZE	A3	JOB REFERENCE	E230197
DESIGNED	NZ	DRAWING No.	D12
CHECKED	NZ	No. IN SET	13
ISSUE	H		
SCALE	1:200		



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DRAWING TITLE
EXTERNAL PIPE SECTION

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

SHEET SIZE A3	JOB REFERENCE
DESIGNED NZ	E230197
CHECKED NZ	DRAWING No.
ISSUE H	D13
SCALE 1:250	No. IN SET
	13