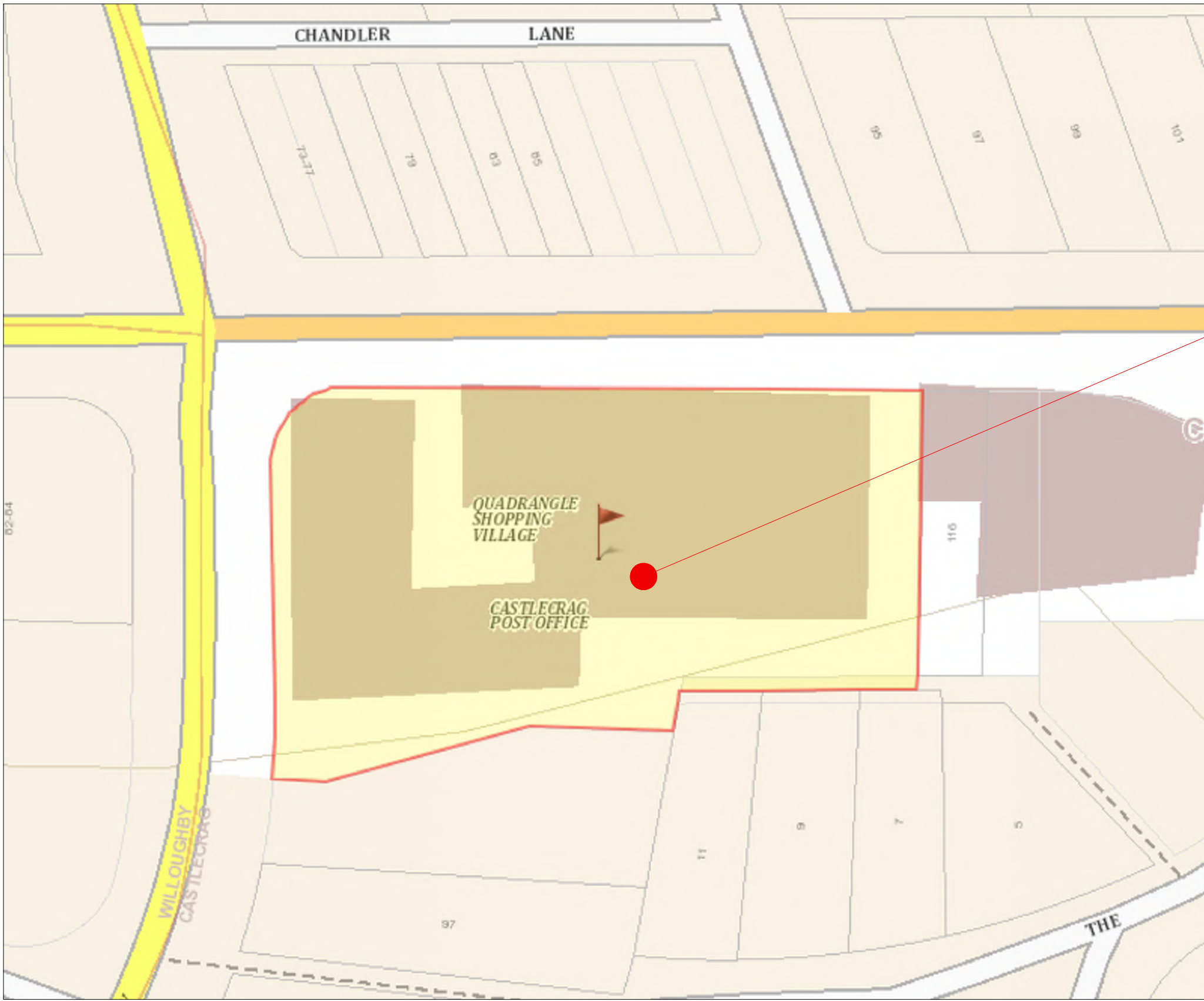




Suite 6.01, 55 Miller Street, PYRMONT 2009
Ph (02) 9516 0722 Fax (02) 9518 5088

PROJECT ADDRESS:
100 EDINBURGH RD, CASTLECRAG NSW 2068
DRAWING INDEX & COVER SHEET: **CIVIL & STORMWATER**

DWG No.	DWG TITLES	REVISION
C000	INDEX SHEET	00
C001	GENERAL NOTES	00
C100	SEDIMENTATION & EROSION CONTROL PLAN	00
C101	SEDIMENTATION & EROSION CONTROL DETAILS	00
C102	AREA ANALYSIS & ENGINEER NOTES	00
C200	STORMWATER MANAGEMENT PLAN - GROUND FLOOR	00
C201	STORMWATER MANAGEMENT PLAN - LOWER GROUND FLOOR	00
C202	STORMWATER MANAGEMENT PLAN - BASEMENT LEVEL 1	00
C203	STORMWATER MANAGEMENT PLAN - BASEMENT LEVEL 2	00
C204	STORMWATER MANAGEMENT PLAN - BASEMENT LEVEL 3	00
C205	STORMWATER MANAGEMENT PLAN - BASEMENT LEVEL 4	00
C206	OSD LAYOUT PLAN	00
C207	OSD SECTION DETAILS	00
C208	BASEMENT PUMPOUT TANK DETAILS	00
C209	MISC. STORMWATER DETAILS	00
C300	MUSIC MODEL OUTCOME & DETAILS	00
C301	DRAINS MODEL OUTCOME & DETAILS	00



SITE LAYOUT (SOURCE: SIX MAPS)



SITE LAYOUT (SOURCE: SIX MAPS)

Revision				Architect	Client	Engineer	Project	ISSUE FOR SSDA		
Amendment	Issued By	Revision Date						Drawn	Designed	Approved
00	ISSUE FOR SSDA	SA	14.11.25	fjc	EDINBURGH DEVELOPMENT GROUP PTY LTD	EI Australia Suite 6.01 55 Miller Street Pyrmont, NSW 2009 T 02 9516 0722	100 EDINBURGH RD, CASTLECRAG NSW 2068	MW	MW	HR
								Scale		
								Project No.		at A1. N.T.S

300mm
200mm
100
50
0 10mm

STANDARD NOTES

1. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND AND OTHER CONSULTANTS DRAWINGS AND SPECIFICATIONS AND SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCY SHALL BE REFERRED TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
2. MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE RELEVANT CODES AND AUTHORITY.
3. THE CONTRACTOR SHALL COMPLY WITH ALL REGULATIONS OF AUTHORITIES HAVING JURISDICTION OVER THE WORKS.
4. THESE DRAWINGS MUST NOT BE SCALED.
5. ALL DIMENSIONS AND REDUCED LEVELS MUST BE VERIFIED ON SITE BEFORE THE COMMENCEMENT OF ANY WORK.
6. SUBSTITUTIONS MUST BE APPROVED BY THE ENGINEER.
7. ALL LEVELS SHOWN ARE TO THE AUSTRALIAN HEIGHT DATUM.
8. SERVICE INFORMATION SHOWN IS BASED ON PLANS SUPPLIED BY AUTHORITIES AND IS APPROXIMATE ONLY. PRIOR TO COMMENCEMENT OF ANY WORKS, THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND SERVICES AND COMPLY WITH ALL REQUIREMENTS OF THOSE AUTHORITIES.
9. EXISTING SURFACE CONTOURS, WHERE SHOWN, ARE INTERPOLATED AND MAY NOT BE ACCURATE.
10. UNLESS NOTED OTHERWISE, ALL VEGETATION SHALL BE STRIPPED TO A MINIMUM DEPTH OF 150mm UNDER ALL PROPOSED PAVEMENT AND BUILDING AREAS.
11. PRIOR TO THE PLACEMENT OF ANY PAVEMENTS, BUILDINGS OR DRAINS, THE EXPOSED SUBGRADE SHALL BE COMPACTED TO A MINIMUM OF 100% STANDARD COMPACTION IN ACCORDANCE WITH TEST 'E1.1' OF A.S. 1289 FOR THE TOP 300mm. ANY SOFT SPOTS SHALL BE REMOVED AND REPLACED WITH GRANULAR FILL TO THE ENGINEERS APPROVAL AND COMPACTED IN ACCORDANCE WITH THE COMPACTION REQUIREMENTS SET OUT BELOW. ON HIGHLY REACTIVE CLAY AREAS SITE EXCAVATED MATERIAL MAY BE USED WITH THE PRIOR AUTHORISATION OF THE ENGINEER.
12. ALL FILL AND PAVEMENT MATERIALS SHALL BE COMPACTED IN 200mm MAXIMUM LOOSE THICKNESS LAYERS TO THE DENSITIES SPECIFIED BELOW:

LANDSCAPED AREAS90% STD.

FILL UNDER ANY FOOTINGS AND FLOOR SLABS FOR ANY STRUCTURE

- FINE CRUSHED ROCK95% MOD.

- OTHER FILL95% SMDD

FILL UNDER ROAD PAVEMENTS

- FINE CRUSHED ROCK95% MOD.

- OTHER FILL100% SMDD

ROAD PAVEMENT MATERIALS

- SUB BASE95% MOD.

- BASE COURSE98% MOD.

13. GRADE EVENLY BETWEEN FINISHED SURFACE SPOT LEVELS. FINISHED SURFACE CONTOURS ARE SHOWN FOR CLARITY. WHERE FINISHED SURFACE LEVELS ARE NOT SHOWN, THE SURFACE SHALL BE GRADED SMOOTHLY SO THAT IT WILL DRAIN AND MATCH ADJACENT SURFACES OR STRUCTURES.

14. UNLESS NOTED OTHERWISE ON HYDRAULIC CONSULTANTS' DESIGN DRAWINGS, ALL DOWNPIPES & GRATED INLETS SHALL BE CONNECTED TO PITS OR MAIN STORMWATER DRAINS WITH UPVC OR EARTHENWARE PIPES OF THE FOLLOWING SIZES LAID AT A MINIMUM GRADE OF 1 IN 100:

A. 100 DIA. FOR DOMESTIC CONSTRUCTION

B. 150 DIA. FOR COMMERCIAL/INDUSTRIAL CONSTRUCTION

C. 100 DIA. FOR BASEMENT GRATED INLETS

FOR SIPHONIC ROOF DRAINAGE SYSTEMS ALL DOWNPIPES CONNECTION DRAIN SIZES TO BE CONNECTED INTO MAIN STORMWATER DRAINS IN ACCORDANCE WITH HYDRAULIC ENGINEERS DRAWINGS.

15. ALL MAIN STORMWATER DRAINS SHALL BE CONSTRUCTED USING ONE OF THE FOLLOWING TYPES OF PIPES WITH RUBBER RING JOINTS:

A. CLASS 2 RCP IN ACCORDANCE WITH AS 4058

B. SEWER CLASS SEH UPVC IN ACCORDANCE WITH AS 1260

C. CLASS 2 F.R.C. TO AS 4139

ANY OTHER TYPE OF PIPES MUST BE REFERRED TO THE ENGINEER FOR APPROVAL PRIOR TO USE.

IF UPVC, OR OTHER PIPES ARE TO BE USED, APPROVAL MUST BE GIVEN BY THE ENGINEER FOR CLASS, BEDDING AND BACKFILL REQUIREMENTS.

STANDARD NOTES CONT.

16. GENERALLY FOR TRENCHING WORKS THE CONTRACTOR MUST:

A. COMPLY WITH THE GENERAL PROVISIONS OF SECTION 21 OF THE 'OCCUPATIONAL HEALTH AND SAFETY ACT'

B. COMPLY WITH THE 'OCCUPATIONAL HEALTH AND SAFETY CODE OF PRACTICE FOR SAFETY PRECAUTIONS IN TRENCHING OPERATIONS'

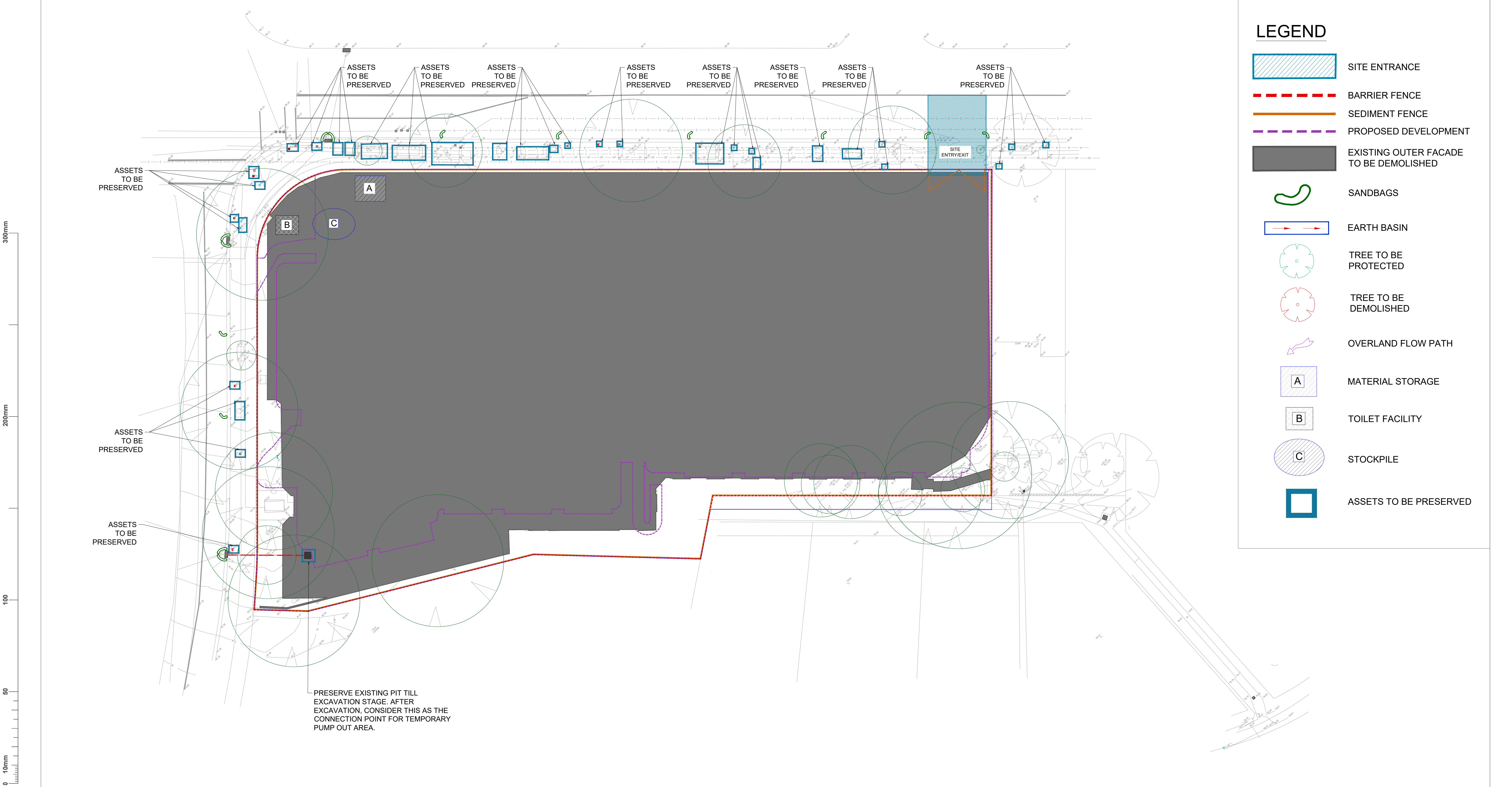
17. PRIOR TO THE EXCAVATION OF ANY TRENCH DEEPER THAN 1.5 METRES THE CONTRACTOR MUST:

A. NOTIFY THE OCCUPATIONAL HEALTH AND SAFETY AUTHORITY ON THE APPROPRIATE FORM.

B. NOMINATE THE MINE MANAGER FOR THE PROJECT.

C. CARRY OUT ALL EXCAVATION WORKS IN ACCORDANCE WITH THE REQUIREMENTS OF THE 'MINES ACT 1958 REGULATIONS AND STATUTORY RULES'

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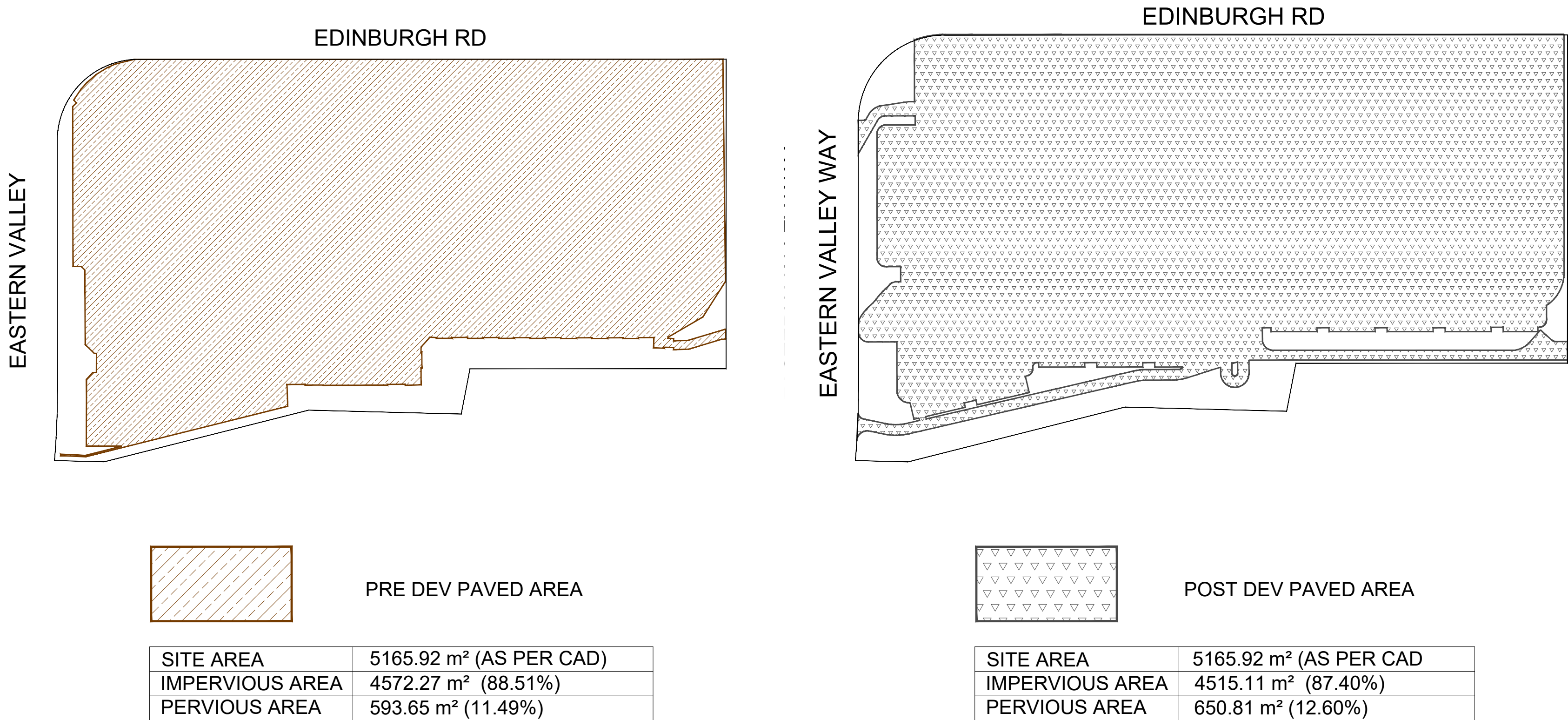


- NOTES:
- 1. REFER TO ARBORIST REPORT FOR TREE PROTECTION & PRESERVATION.
 - 4. REFER TO THE ARBORIST REPORT FOR THE TREES TO BE REMOVED.
 - 5. EXISTING COUNCIL PIT & STORMWATER LINES NEED TO BE PRESERVED.
 - 6. PROPOSED SITE ENTRY/ EXIT IS SUBJECT TO CONSTRUCTION MANAGEMENT PLAN, TRAFFIC MANAGEMENT PLAN & SITE OFFICE LAYOUT.

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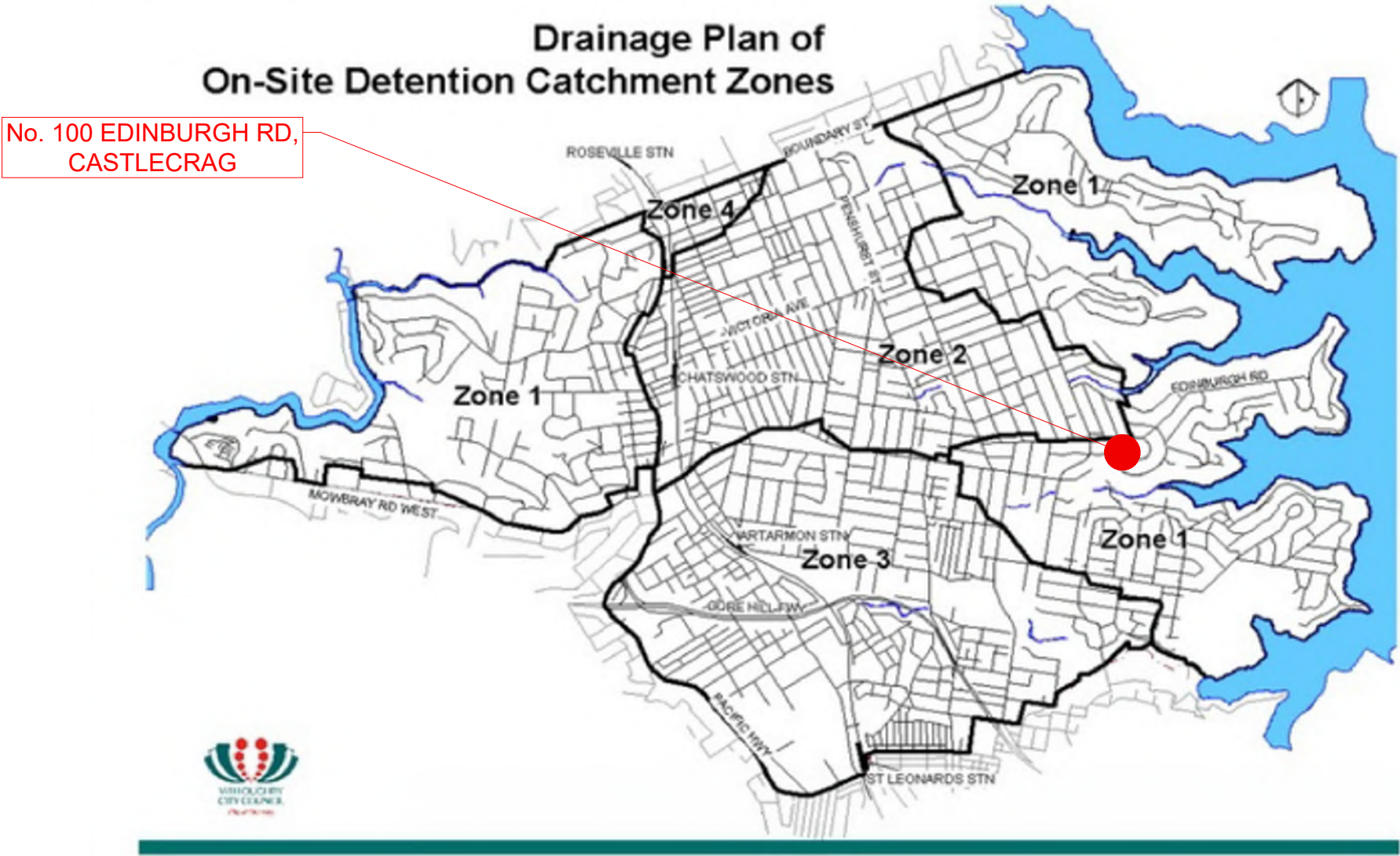
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SEDIMENTATION & EROSION CONTROL PLAN																			

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Appendix 1 – Onsite detention catchment zones

Figure 5 Drainage plan of on-site detention catchment zones



ONSITE DETENTION CATCHMENT ZONE

SOURCE: WILLOUGHBY DEVELOPMENT CONTROL PLAN PART I: STORMWATER MANAGEMENT 2023, APPENDIX 1

ENGINEER'S COMMENTS (SITE OBSERVATION)

AS PER THE ENGINEER'S SITE INSPECTION, THE PROPERTY LIES IN THE JUNCTION OF TWO ROADS, EASTERN VALLEY WAY AND EDINBURGH ROAD. IT IS OBSERVED THAT THE SITE SUPPORTS GRAVITY DRAINAGE ALONG EDINBURGH ROAD, TOWARDS THE DRAINAGE ASSET ON EASTERN VALLEY WAY. UPON INVESTIGATION IT WAS OBSERVED THAT NO EASEMENT ON SURVEY WAS FOUND. AREA ANALYSIS WAS DONE W.R.TO SURVEY AND PROPOSED DEVELOPMENT.

DRAINAGE SCENERIO (RAINWATER REUSE)

AS PER BASIX REPORT, 5000L RAINWATER TANK IS REQUIRED. REFER TO ARCHITECTURAL DETAILS FOR RAINWATER TANK LOCATIION.

DRAINAGE SCENERIO (PRE DEVELOPMENT)

AS THE EXISTING BUILDING IS PROPOSED TO BE DEMOLISHED, ALL THE EXISTING DRAINAGE NETWORK NEEDS TO BE REMOVED AND REPLACED WITH NEW DRAINAGE NETWORK AS PROPOSED IN THE DRAWINGS. THE OLD SYSTEM SHALL BE DISCONNECTED AND REMOVED AND PROPERLY DISPOSED. NO PIPES SHALL BE LEFT CONNECTED TO THE DRAINAGE LINTEL ON COUNCIL ROAD. FUTURE REPAIR WORKS SHALL BE UNDERTAKEN AFTER COUNCIL'S CONSENT.

DRAINAGE SCENERIO (PROPOSED DEVELOPMENT)

ALL OF THE ROOF IS ADEQUATELY DRAINED WITH DOWNPIPES & RAINWATER OUTLETS, THIS DRAINAGE NETWORK IS CONNECTED UNDERGROUND VIA A NETWORK OF PITS AND PIPES WHICH ARE PROPOSED TO BE CONNECTED TO THE OSD TANK SIZED AND DOCUMENTED IN THE PROVIDED PLANS. DISCHARGE FROM SITE TO BE VIA GRAVITY TO THE STORMWATER INLET ON EASTERN VALLEY WAY.

THE DRAINAGE COMPONENTS ARE DOCUMENTED TENTATIVELY FOR THE STAKEHOLDERS REPRESENTING COUNCIL FOR ASSESSMENT. THE LOCATION AND DETAILS OF THE INTERNAL BUILDING HYDRAULIC COMPONENTS WILL BE DESIGNED AND DOCUMENTED AT THE CONSTRUCTION STAGE. THE HYDRA

LEGEND

- SWD

Ø 100 UPVC MIN. 1% FALL
- SWD

Ø 150 UPVC MIN. 1% FALL
- SWD

Ø 225 UPVC MIN. 1% FALL
- GRATED DRAIN
- SW PIT (TYP.)
- DP

100mm GRATED INLET PIPE WITH DROPPER FROM LEVEL ABOVE
- 250(W)x90(H) CAST-IN-SITU PERIMETER TRENCH DRAIN
- DP

225mm DOWNPIPE

ARBORIST NOTES:

- ANY CONSTRUCTION WITHIN TREE PROTECTION ZONE (TPZ) NEEDS TO BE SUPERVISED BY THE PROJECT ARBORIST.
- TREES TO BE RETAINED AS PER ARBORIST'S REPORT.
- MINI EXCAVATOR (MAX 1.5T) TO BE USED WITHIN TPZ AS PER PROJECT ARBORIST ADVICE.
- PITS SHOULD BE CONSTRUCTED OUTSIDE OF ANY STRUCTURAL ROOT ZONE (SRZ).
- IF ANY AG-LINES OR PIPES ARE TO BE LOCATED WITHIN A SRZ, THE ARBORIST IS TO ADVISE IF THE ROOTS OF THE SPECIFIC TREE CAN SUPPORT MINOR ENCROACHMENT. ANY EXCAVATION IS TO BE UNDERTAKEN BY HAND, AND WITH THE PROJECT ARBORIST'S SUPERVISION TO ENSURE MINIMAL IMPACT TO THE TREE.

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LEGEND

- SWD

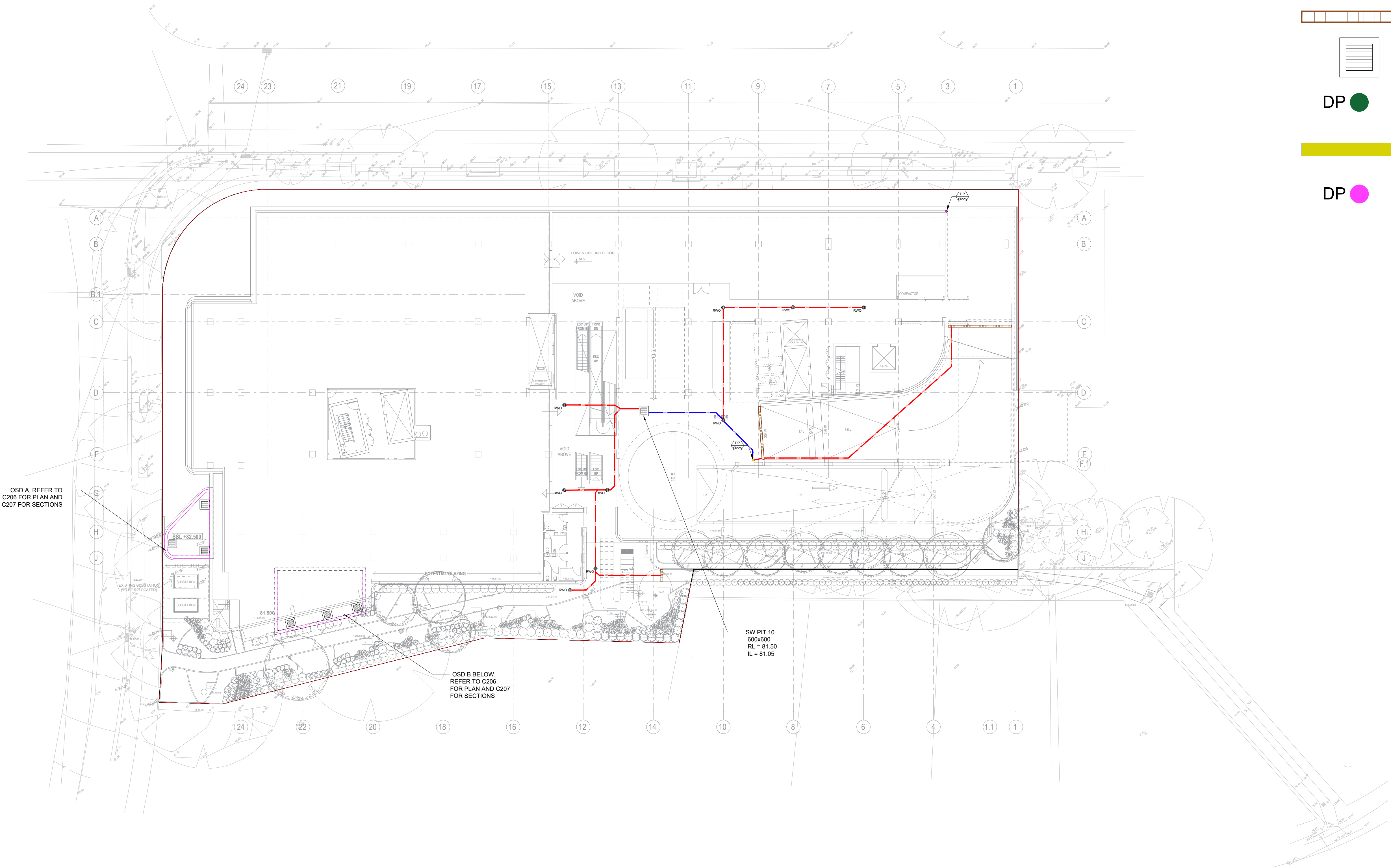
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- DP

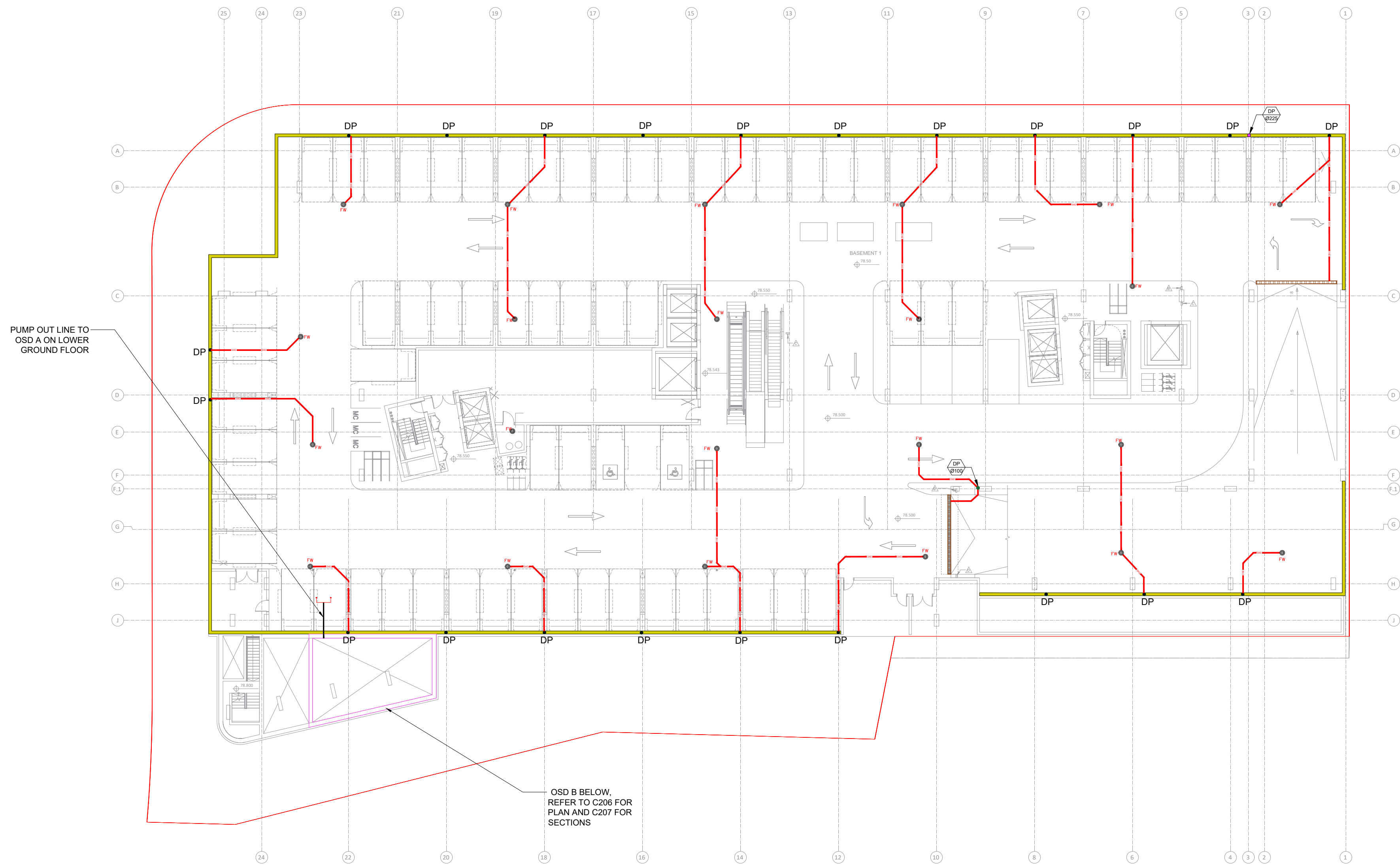
225mm DOWNPIPE



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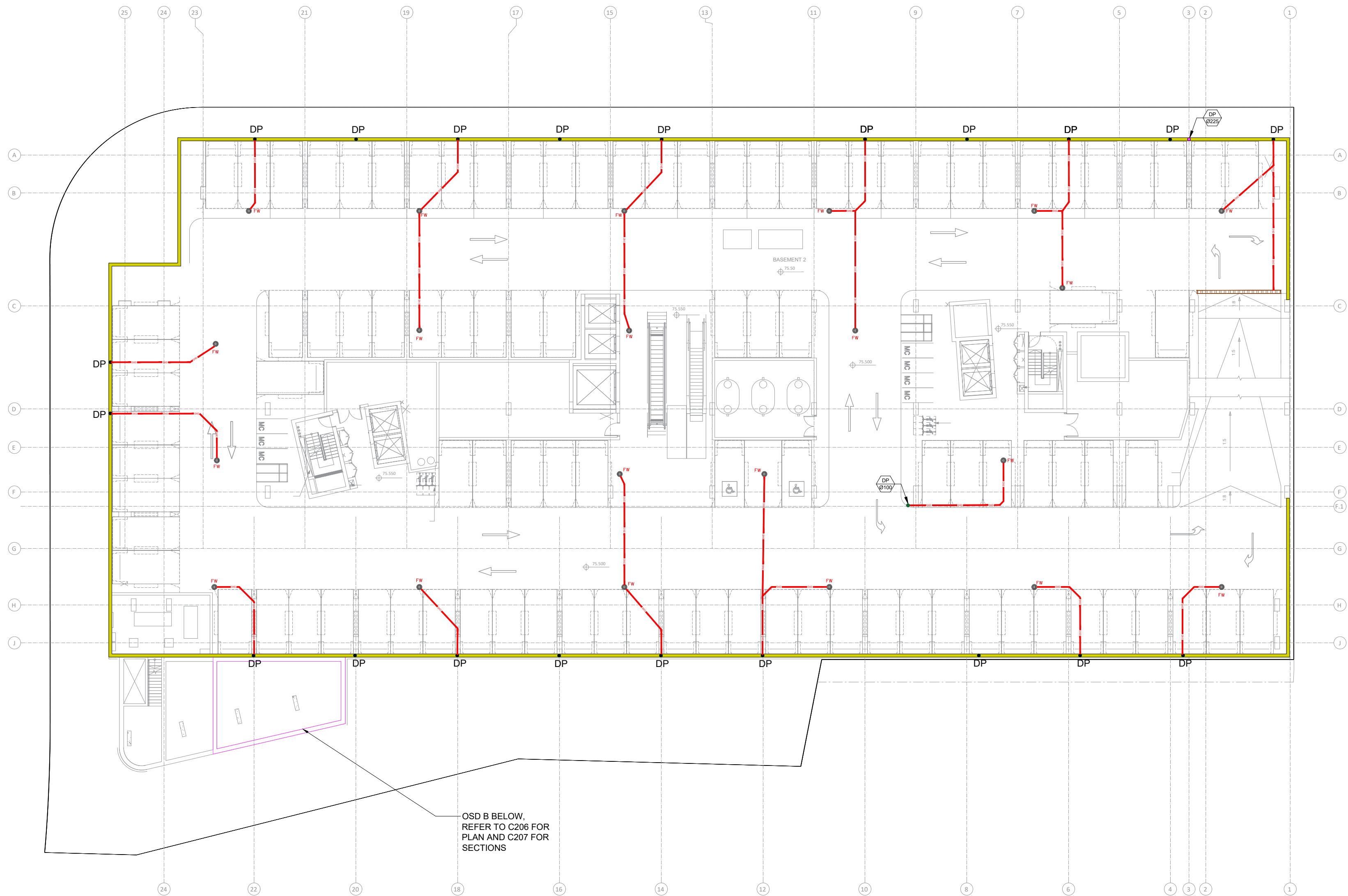
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- SWD Ø 100 UPVC MIN. 1% FALL
- SWD Ø 150 UPVC MIN. 1% FALL
- SWD Ø 225 UPVC MIN. 1% FALL
- GRATED DRAIN
- SW PIT (TYP.)
- 100mm GRATED INLET PIPE WITH DROPPER FROM LEVEL ABOVE
- 250(W)x90(H) CAST-IN-SITU PERIMETER TRENCH DRAIN
- DP 225mm DOWNPIPE

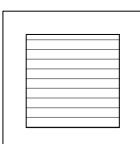
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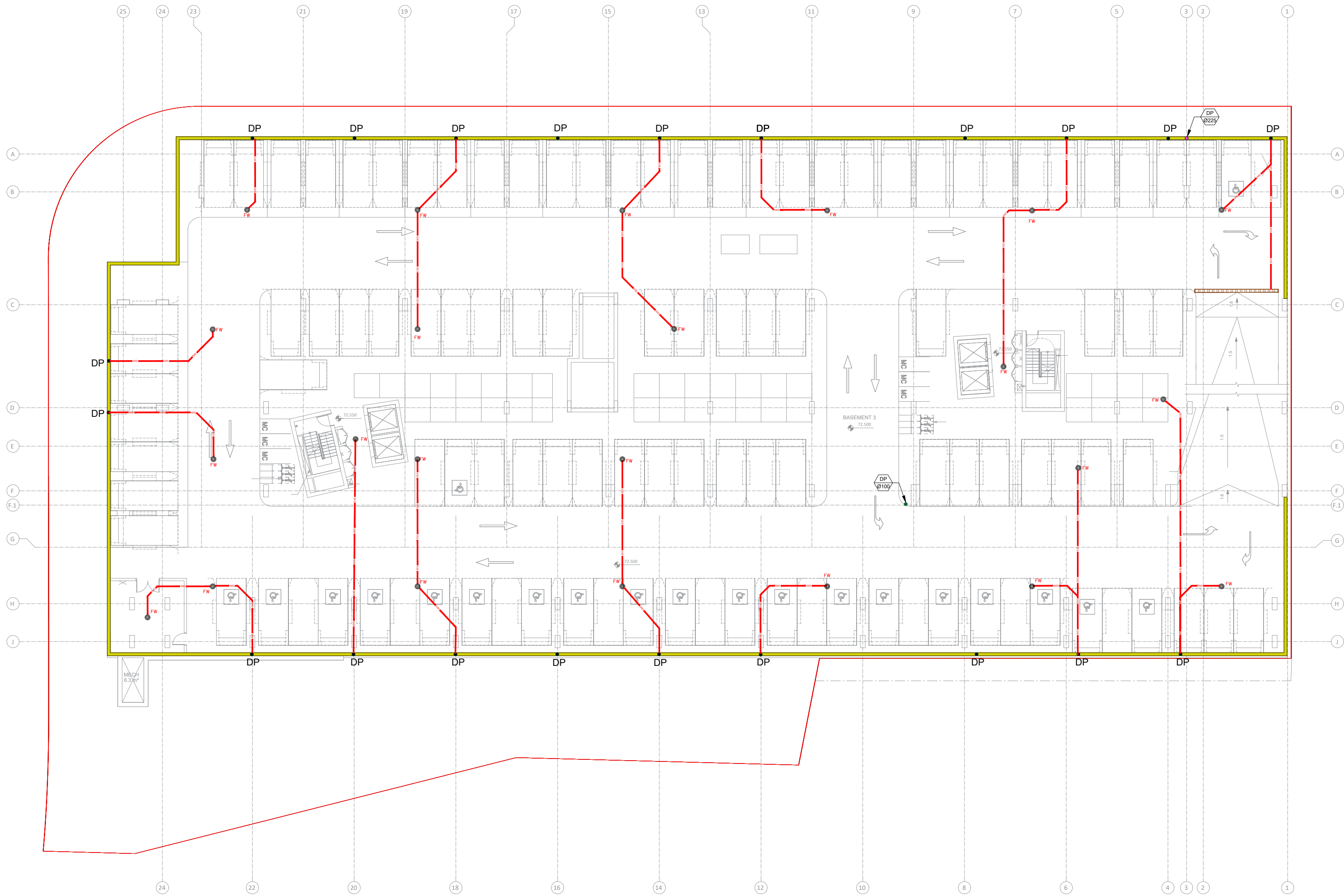
LEGEND

-  SWD  Ø 100 UPVC MIN. 1% FALL
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-  225mm DOWNPIPE

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LEGEND

- SWD

Ø 100 UPVC MIN. 1% FALL
- SWD

Ø 150 UPVC MIN. 1% FALL
- SWD

Ø 225 UPVC MIN. 1% FALL
- GRATED DRAIN
- SW PIT (TYP.)
- DP

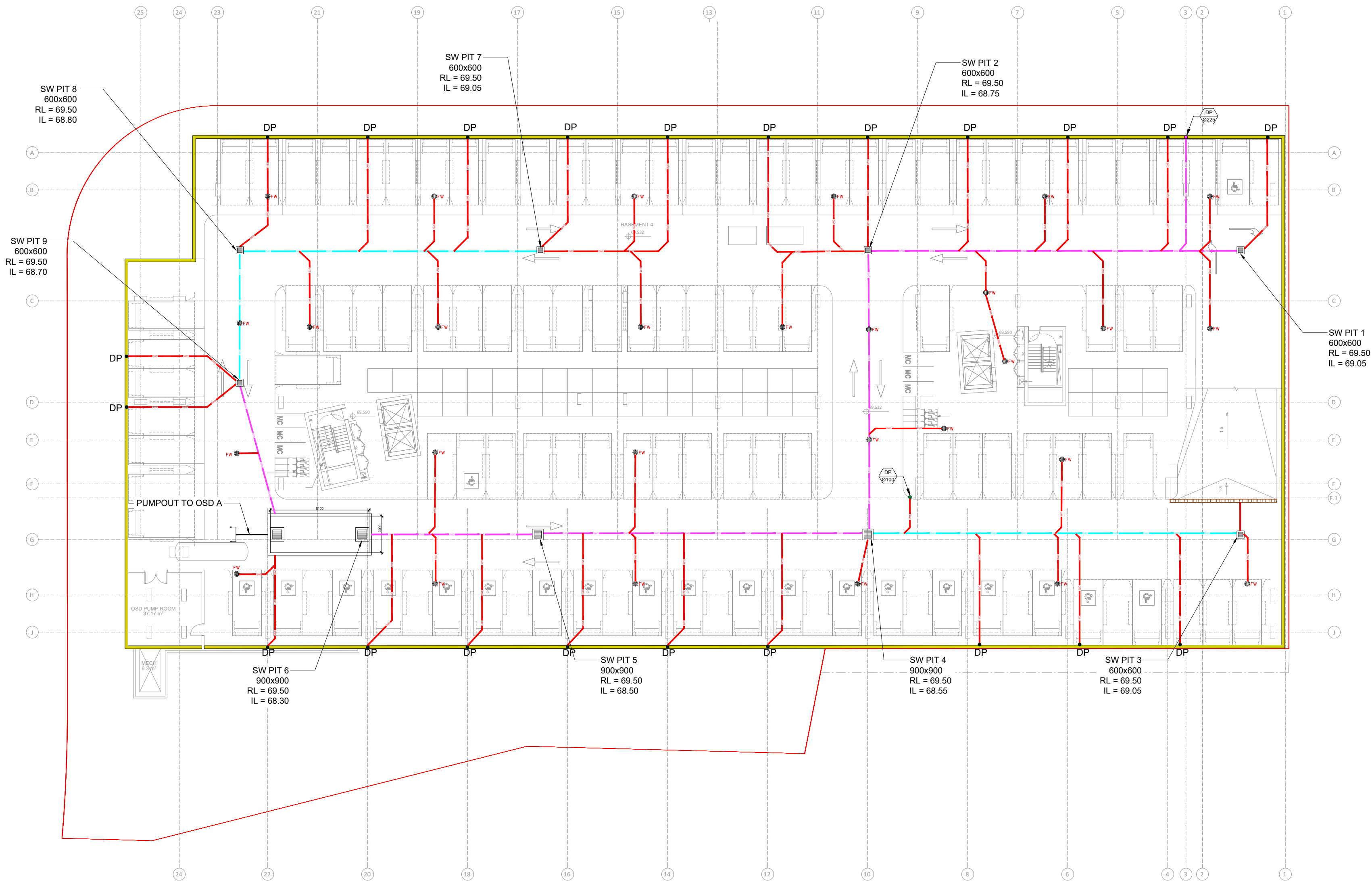
100mm GRATED INLET PIPE
WITH DROPPER FROM
LEVEL ABOVE
- 250(W)x90(H) CAST-IN-SITU
PERIMETER TRENCH DRAIN
- DP

225mm DOWNPIPE

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										Drawing No. C204		Revision 00	
										Title STORMWATER MANAGEMENT PLAN - BASEMENT LEVEL 3		Issued By SA	
										Checked By HR</			

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LEGEND

- SWD Ø 100 UPVC MIN. 1% FALL
- SWD Ø 150 UPVC MIN. 1% FALL
- SWD Ø 225 UPVC MIN. 1% FALL
- GRATED DRAIN
- SW PIT (TYP.)
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- 250(W)x90(H) CAST-IN-SITU PERIMETER TRENCH DRAIN
- DP 225mm DOWNPIPE

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300mm
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STORMFILTER WSUD CARTRIDGE DETAILS

STORMFILTER CARTRIDGE UNIT

FALSE FLOOR

PIT BASE

STORMFILTER CARTRIDGE DETAIL

STORMFILTER CARTRIDGE NOTES

1.

A HIGH FLOW BYPASS ARRANGEMENT OR DISSIPATION STRUCTURE MAY BE REQUIRED TO MINIMISE RE-SUSPENSION OF SOLIDS OR ANY SIGNIFICANT INERTIAL FORCES ON THE CARTRIDGES.

2.

ALL WATER QUALITY TREATMENT DEVICES REQUIRE PERIODIC MAINTENANCE. REFER TO OPERATION AND MAINTENANCE MANUAL FOR GUIDELINES AND ACCESS REQUIREMENTS.

3.

SITE SPECIFIC PRODUCTION DRAWING WILL BE PROVIDED ON PLACEMENT OF ORDER.

4.

THE INVERT LEVEL OF THE INLET PIPE MUST BE GREATER THAN THE RL OF THE FALSE FLOOR WITHIN THE CARTRIDGE CHAMBER.

5.

CONCRETE STRUCTURE AND ACCESS COVERS DESIGNED AND PROVIDED BY OTHERS. ACCESS COVERS TO BE A MINIMUM 900 X 900 ABOVE CARTRIDGES. OH&S REGARDING ACCESS COVERS AND TANK ACCESS TO BE ASSESSED BY OTHERS ON SITE.

6.

THE STRUCTURE THICKNESSES SHOWN ARE FOR REPRESENTATIONAL PURPOSES.

7.

REFER TO MANUFACTURER SPECIFICATION FOR DETAILS.

INSTALLATION NOTES

1.

UNDERDRAIN AND FALSE FLOOR INSTALLED BY MANUFACTURER.

NOTE: PRODUCT AND ASSOCIATED DETAILS ARE SOURCED FROM OCEAN PROTECT MANUFACTURER GUIDELINES. TREATMENT CARTRIDGES ARE MODELLED IN MUSIC FOR WSUD COMPLIANCE. REFER TO OCEAN PROTECT WEBSITE FOR DETAILS.

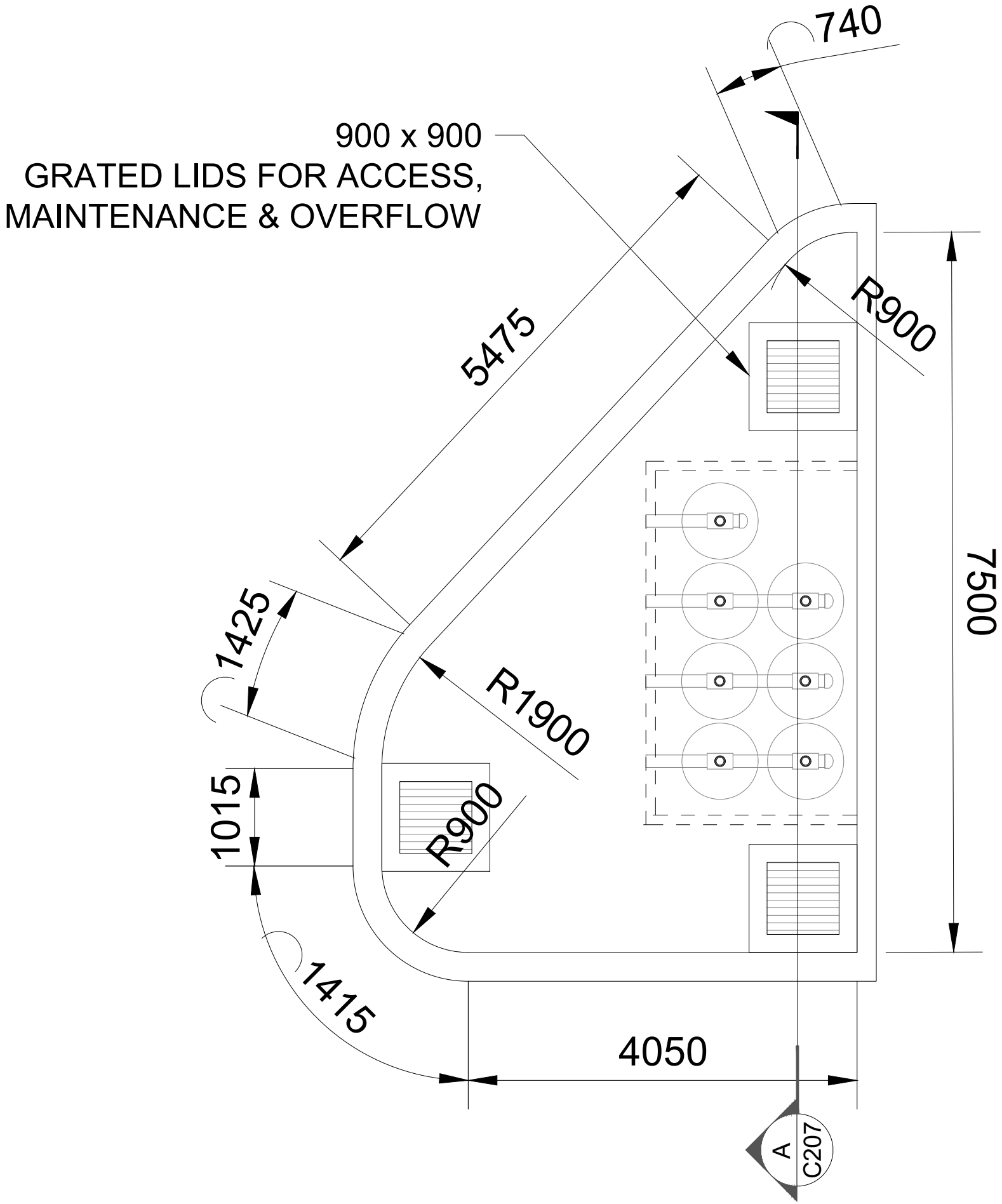
DANGER

CONFINED SPACE
NO ENTRY WITHOUT
CONFINED SPACE
TRAINING

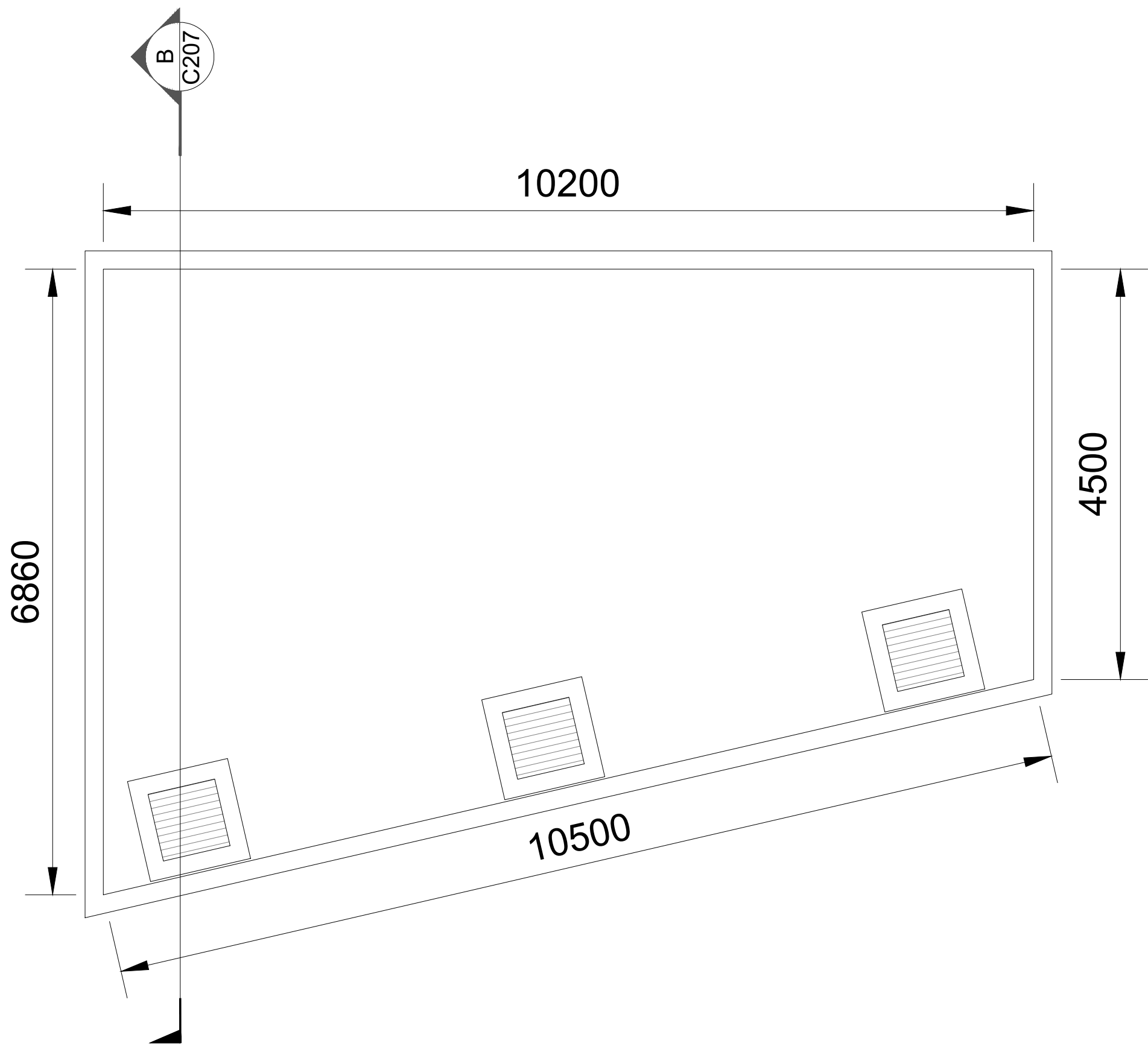
Colours
"DANGER" and background - White
Elliptical area - Red
Rectangle containing ellipse - Black
Other lettering and border - Black

Minimum Size - 187.5 mm x 250mm

OSD SIGNAGE DETAIL



OSD TANK A
LAYOUT PLAN
SCALE = 1:50



OSD TANK B
LAYOUT PLAN
SCALE = 1:50

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00	ISSUE FOR												

STANDARD PUMP OUT DESIGN NOTES

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

- THE PUMP SHALL BE PROGRAMMED TO WORK ALTERNATIVELY 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, THIS FLOAT WILL FUNCTION 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. IT WILL BE 100mm ABOVE THE INLET PIPE.
- 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.

PUMP OUT RATE

(BASEMENT 4)

- RAINFALL INTENSITY (I) = 62.00 mm/h (100 YR ARI FOR 2 HR)
- AREA OF PUMP OUT (A) = 305.40 m²
DRIVEWAY (125m²) + SEEPAGE (283.6m x 7.56m x 0.1)
- COEFFICIENT OF DISCHARGE (C) = 0.9
- Q = CIA / 3600 = 4.73 L/sec (284.02 L/min)

PUMPOUT DESIGN SUMMARY

(BASEMENT 4)

- Q = CIA / 3600 = 4.73 L/s
- VOLUME REQUIRED = 4.73x60x60 / 1000 = 34.08 m³
- TOTAL HEAD TO BE LIFTED = 15.50 m

PUMPOUT PIT DIMENSIONS

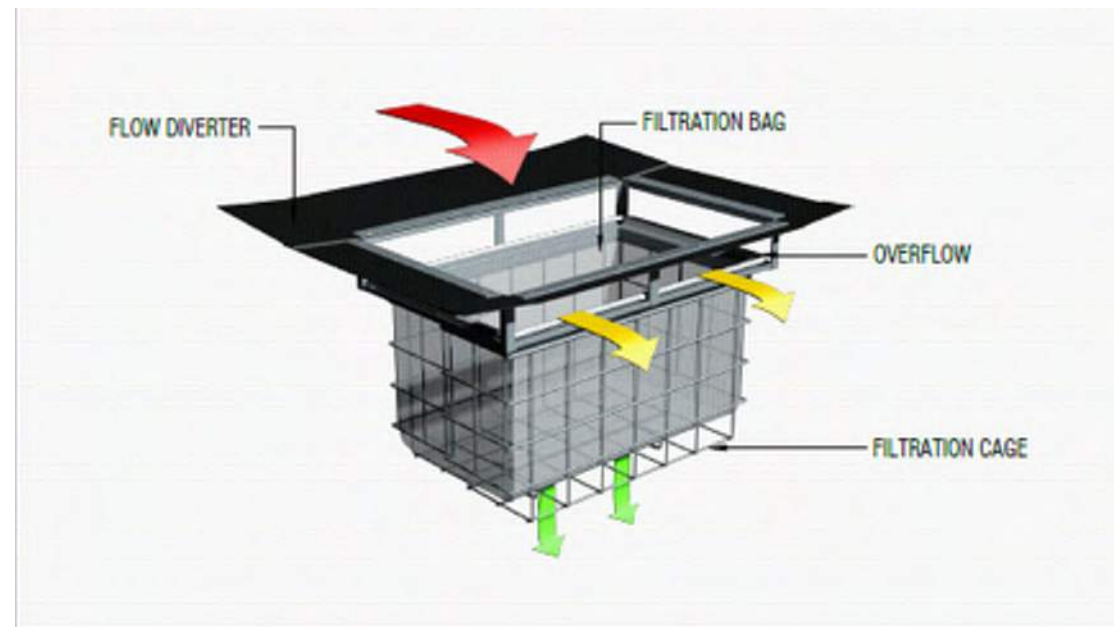
(BASEMENT 4)

- WIDTH = 3 m
- LENGTH = 8.1 m
- DEPTH = 1.5 m
- VOLUME = 36.45 m³

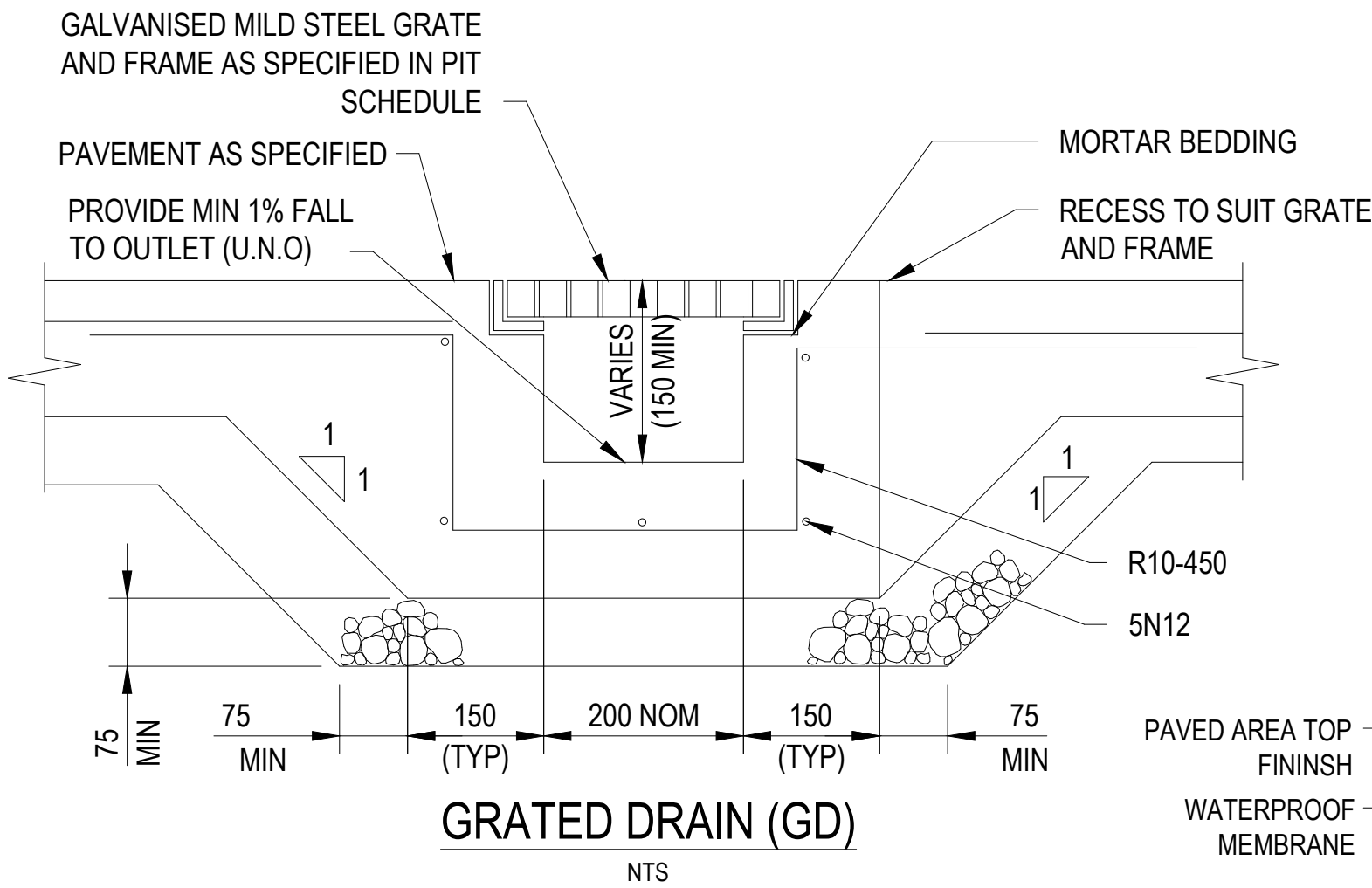
PUMP SELECTION

PROVIDE 2 AUTO STANDARD PUMPS ACCORDING TO PUMP OUT RATE AS SELECTED BELOW OR SIMILAR. TO BE INSTALLED IN ACCORDANCE WITH AS3500.3

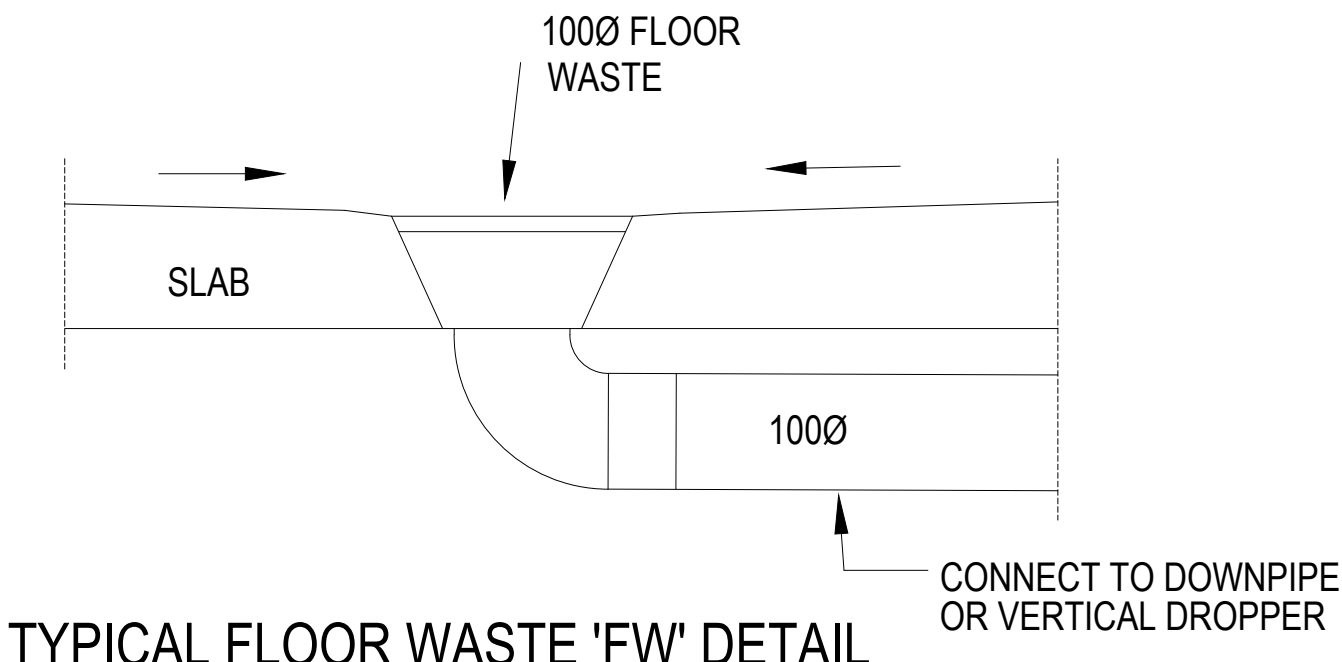
Model	Power		Outlet (inch)	Max. Flow (m³/h)	Max head (m)	The max flow particle (mm)	Dim. (mm)	Weight (kg)		20 (Loading Qty) (pcs)
	Three Phase	kW						G.W	N.W	
AL750		0.75	1	22	14	20	525x250x280	31	27	680
AL1500		1.5	2	31	18	20	585x245x300	40	36	570
AL2200		2.2	3	65	21	20	585x260x330	45	40	500
AL3700		3.7	5	78	24	30	370x325x680			



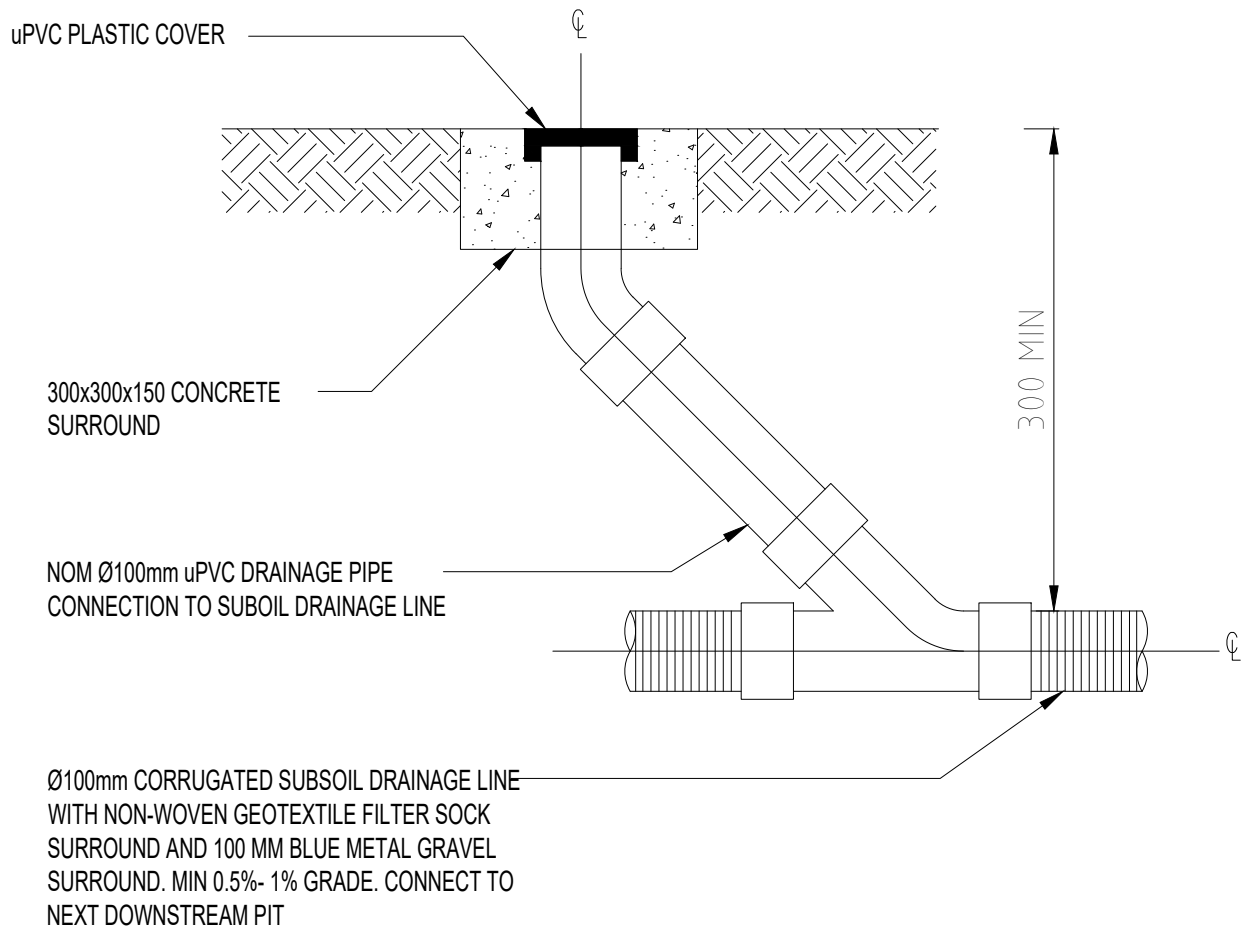
TYPICAL OCEANGUARD DETAIL
(TO BE INSTALLED IN ALL EXISTING PIT TAKING
STORMWATER FROM GRATE)



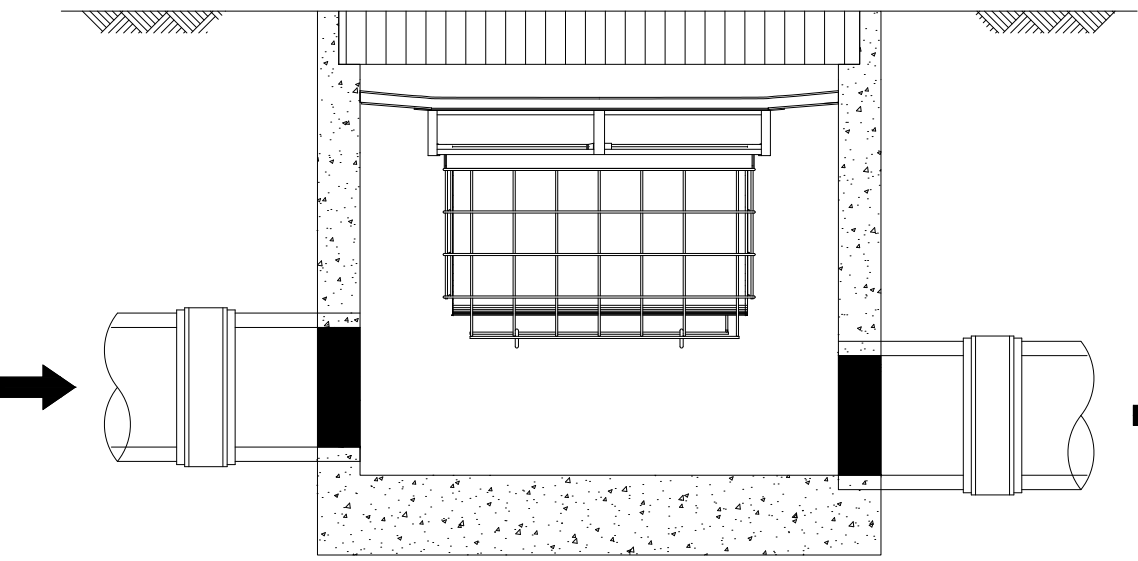
GRADED DRAIN (GD)
NTS



TYPICAL FLOOR WASTE 'FW' DETAIL

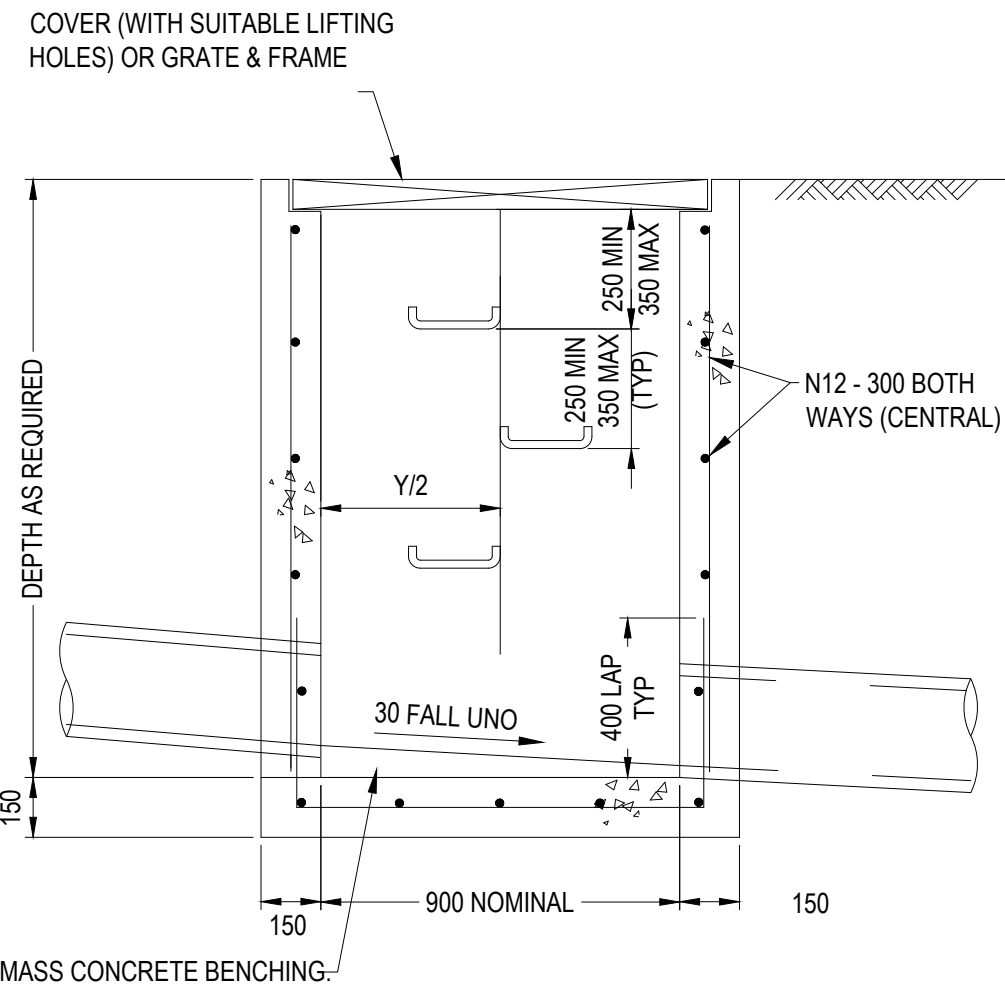
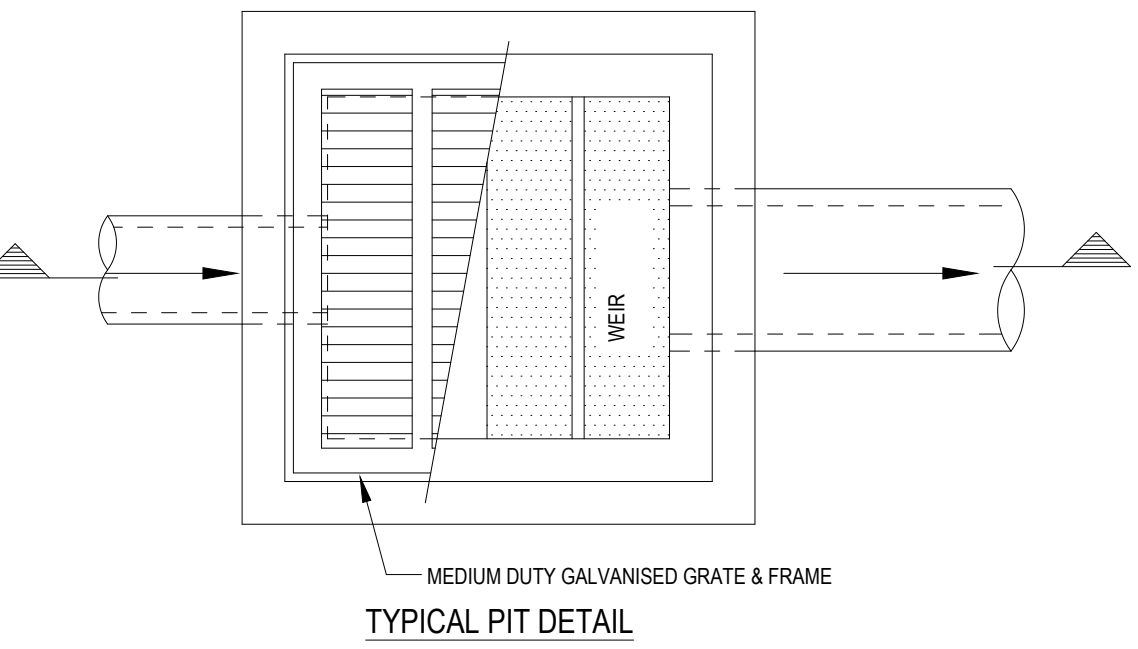


INTERMEDIATE RISER (IR)
SCALE 1:10

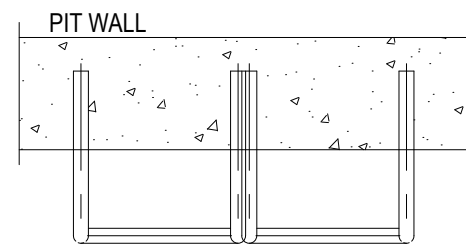
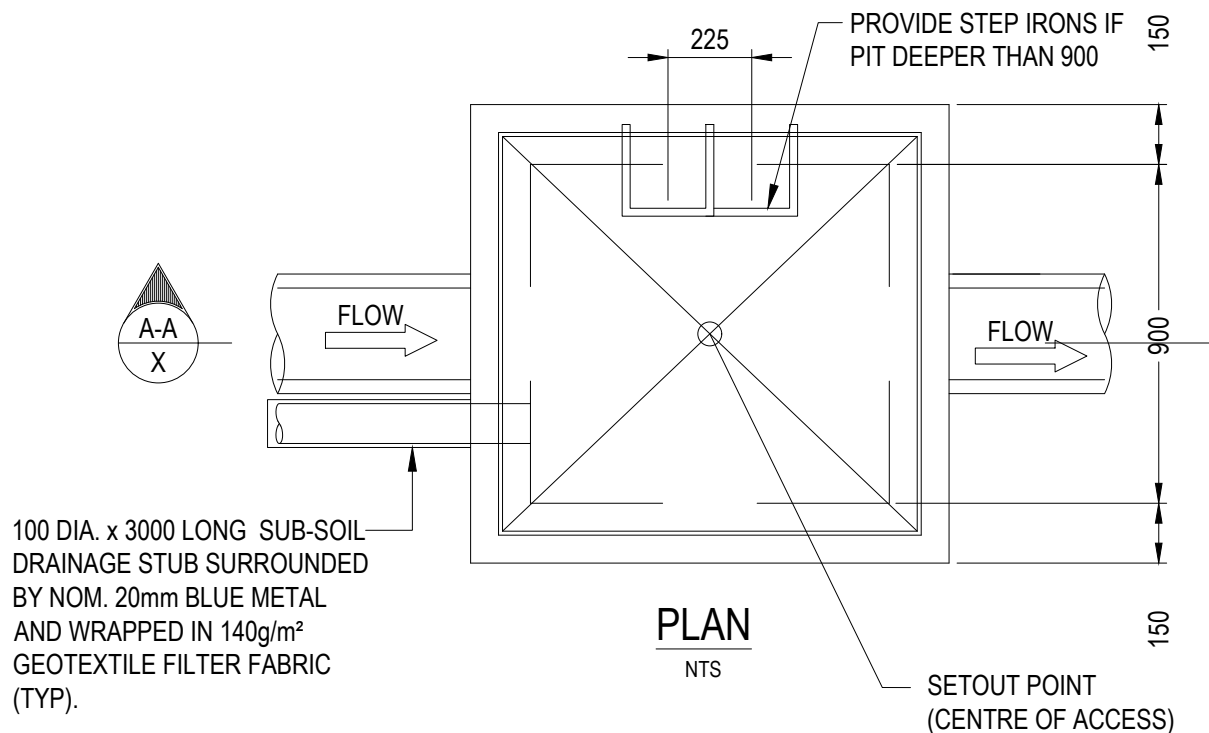


**PIPE FLOW
CONFIGURATION**

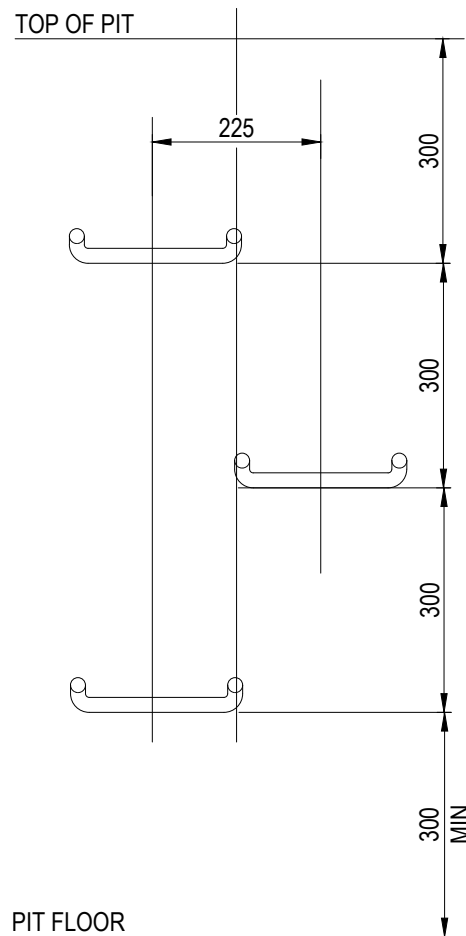
**NOTE: INCOMING PIPES SHOULD BE INSTALLED
ABOVE THE OCEANGUARD, EXCEPT WHERE
INCOMING FROM ANOTHER PIT. REFER TO
OCEANGUARD PRODUCT SPECIFICATION.**



SECTION
NTS

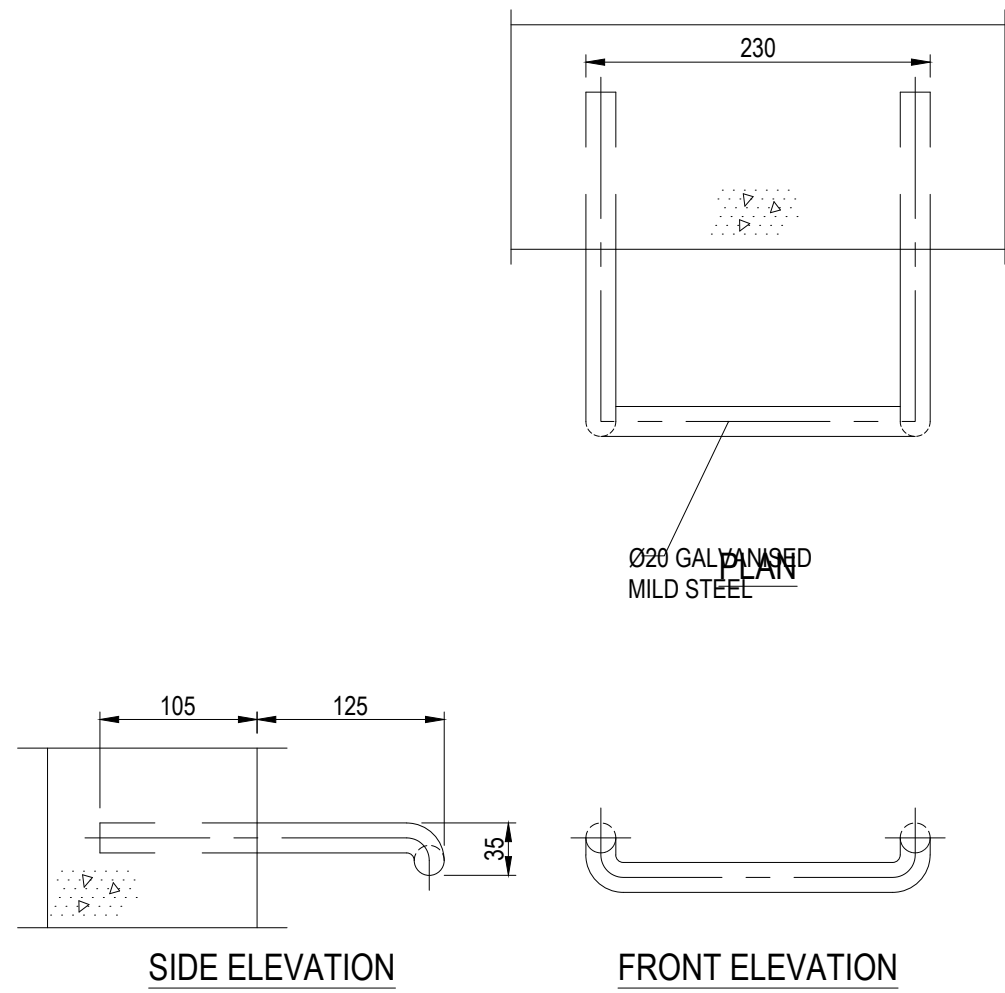


PLAN

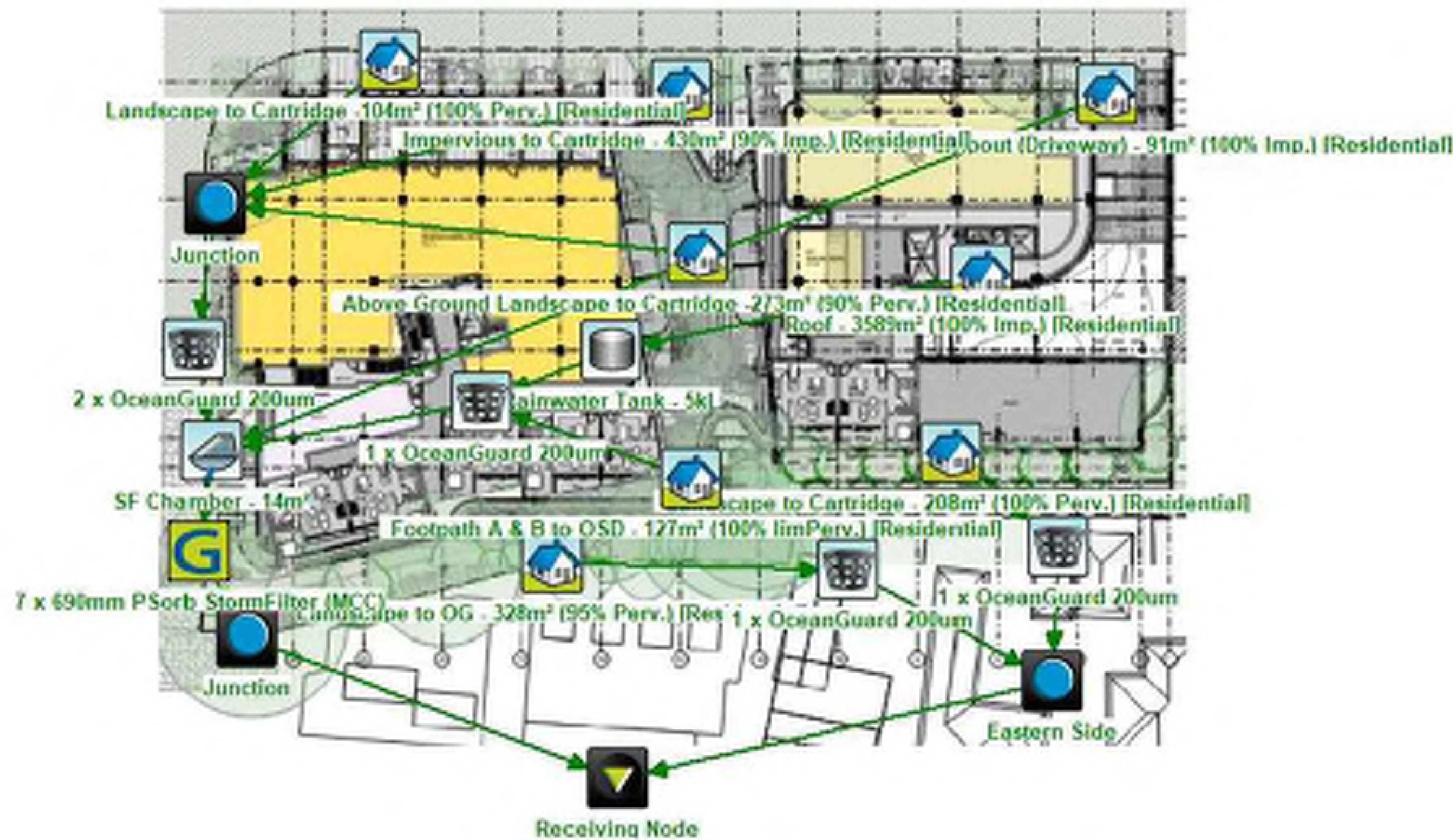


ELEVATION

**STEP IRON
PLACEMENT TO PIT WALL**
NTS



300mm
200mm
100
50
10mm
0



MUSIC MODEL NODE NETWORK

Table 12 Water quality requirements

Pollutant	Average annual pollutant load reduction (%)
Gross pollutants	90%
Total suspended solids (TSS)	85%
Total phosphorus (TP)	60%
Total nitrogen (TN)	45%
Hydrocarbons	See below

Determination of water quality targets are to be achieved in line with Sydney Water guidelines or using a MUSIC model. If the MUSIC model is used, parameters are to be in line with the parameters in Sydney Catchment Authority's document 'Using MUSIC in Sydney's Drinking Water Catchment'.

Developments with more than 5 parking spaces and commercial and industrial development are to provide a treatment system that specifically targets hydrocarbons or incorporates a raingarden / bio-retention basin. Runoff from all parking areas, driveways or access roads must drain to the treatment system or raingarden / bio-retention basin.

WATER QUALITY TARGETS



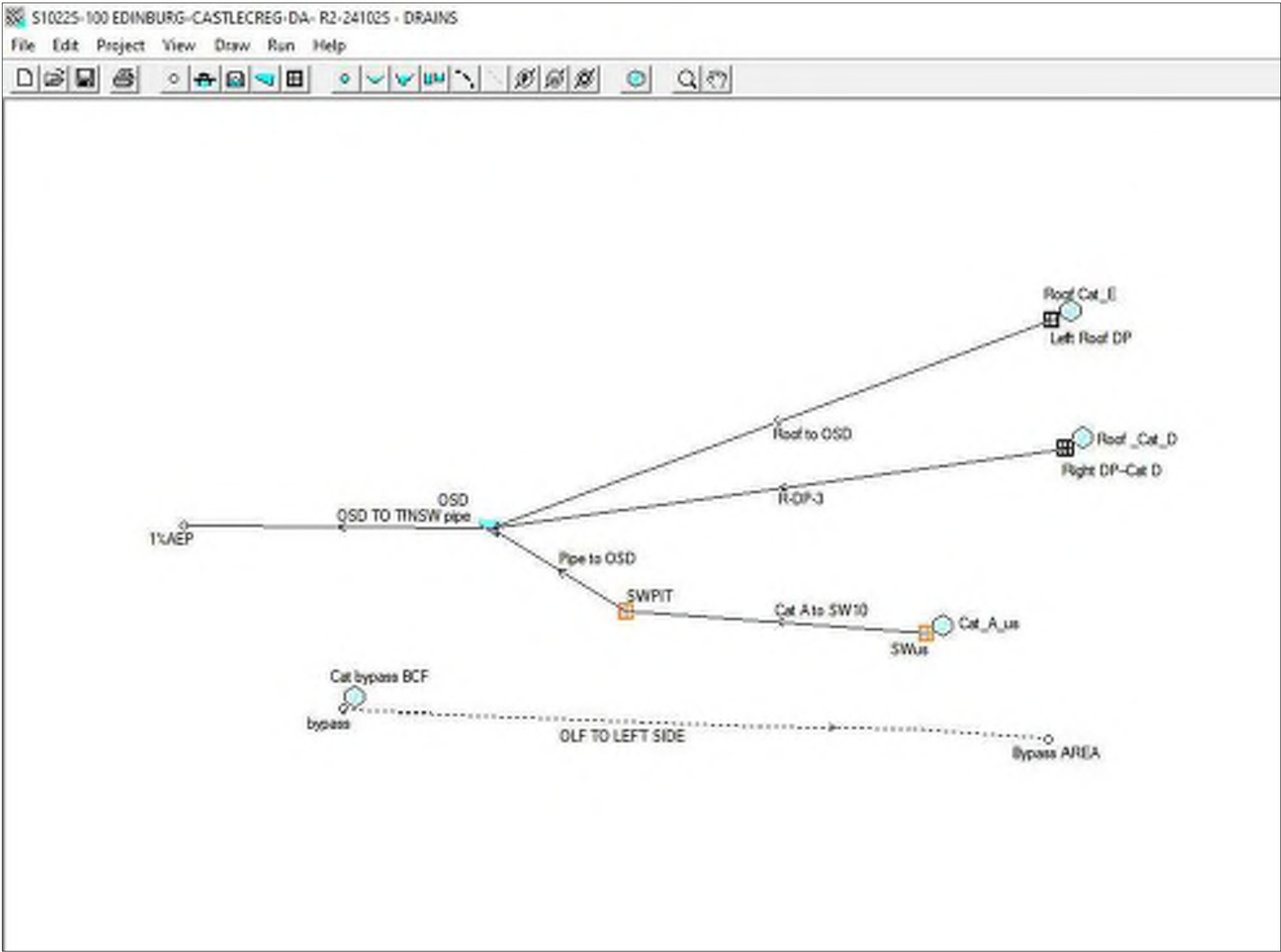
CATCHMENT SURFACE TYPE PLAN

Treatment Train Effectiveness - Receiving Node			
	Sources	Residual Load	% Reduction
Flow (ML/yr)	5.68	5.51	3
Total Suspended Solids (kg/yr)	324	44.6	86.2
Total Phosphorus (kg/yr)	1.04	0.296	71.5
Total Nitrogen (kg/yr)	12.2	5.65	53.7
Gross Pollutants (kg/yr)	133	0	100

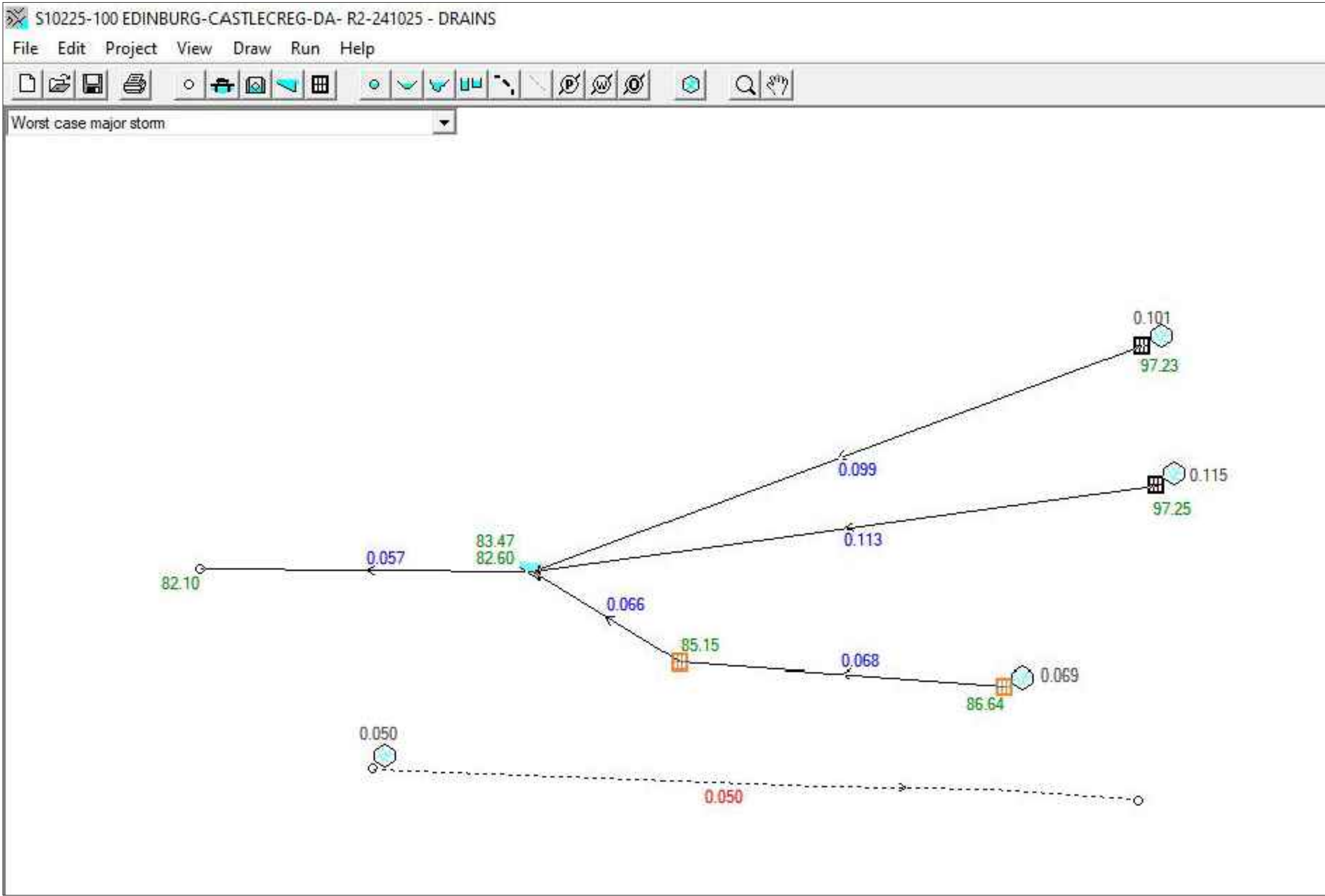
MUSIC MODEL RESULTS

ISSUE FOR SSDA

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DRAINS MODEL NODE NETWORK



100-YEAR ARI RESULTS

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										Drawing No.		Revision
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