

## On-Site Detention Calculation Sheet for Upper Parramatta River Catchment HED Secondary Outlet

Project:	Mixed Development
Site Address:	55-57 Station Street, Wentworthville
Job No:	18527
Designer:	IA
Telephone:	(02) 94178400

### Site Data

OSD Area:	Upper Parramatta River Catchment		
L.G.A	Parramatta City Council		
Site Area	0.2731 ha	2,731 m <sup>2</sup>	
Total Roof Area	0.054 ha	540 m <sup>2</sup>	
Area of Site draining to OSD Storage	0.2651 ha	2,651 m <sup>2</sup>	Satisfactory
Residual Site Area (Lot Area - Roof Area)	0.219 ha		
Area Bypassing Storage	0.008 ha		
Area Bypassing / Residual Site Area	3.7%		Satisfactory 30% Max
No. of Dwellings on Site	28		Satisfactory
Site Area per Dwelling	0.010 ha		
Roof Area per Dwelling	0.002 ha		

### Basic OSD Parameters

		Extended Detention		Detention	
Basic SSR Vols	Ext Detention Storage	300 m <sup>3</sup> /ha		Total Storage	455 m <sup>3</sup> /ha
Basic SRDs	Primary Outlet	40 L/s/ha		Secondary Outlet	150 L/s/ha

### OSD Tank Bypass

Residual Lot Capture in OSD Tank	96%		
Adjusted SRDs	39 L/s/ha		143 L/s/ha

### OSD Calculations

		Extended Detention		Detention	
Basic SSR Volume	Ext Detention Storage	81.93 m <sup>3</sup>		Total Storage	124.26 m <sup>3</sup>
Total Rainwater Tank Credits		0.00 m <sup>3</sup>			0.00 m <sup>3</sup>
Storage Volume				Total	124.26 m <sup>3</sup>
Storage Volume	Ext Detention Storage	81.93 m <sup>3</sup>		Flood Detention Storage	42.33 m <sup>3</sup>
OSD Discharges	Primary Outlet	10.62 L/s		Secondary Outlet	38.97 L/s
RL of Top Water Level of Storage		29.000 m			29.000 m
RL of Orifice Centre-line		28.000 m			28.000 m
Number of Orifices		1			1
Estimated Downstream Flood Level		27.00 1.5 yr ARI			27.00 100 yr ARI
Downstream FL - RL of Orifice Centre-line		-1.00 Satisfactory		Satisfactory	-1.00 m
Design Head to Orifice Centre		1.000 m		TWL Ext Detn Storage - RL Orifice	1.000 m
Calculated Orifice Diameter		71 mm Satisfactory		Satisfactory	137 mm

### Overflow Weir & Freeboard Calculation

RL of Minimum Habitable Floor Level		29.500 m
RL of Minimum Garage Floor Level		29.500 m
Length of Overflow Weir		2.00 m
Site Runoff Coefficient	Parramatta City Council	0.75
Storm Intensity (5 min 100 yr ARI)		206 mm/h
Peak Flow over Weir		113.8 L/s
Depth of Flow over Weir		106 mm
Freeboard to Habitable Floor	Satisfactory	394 mm
Freeboard to Garage Floor	Satisfactory	394 mm

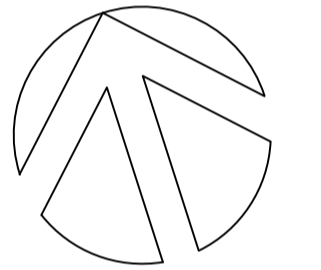
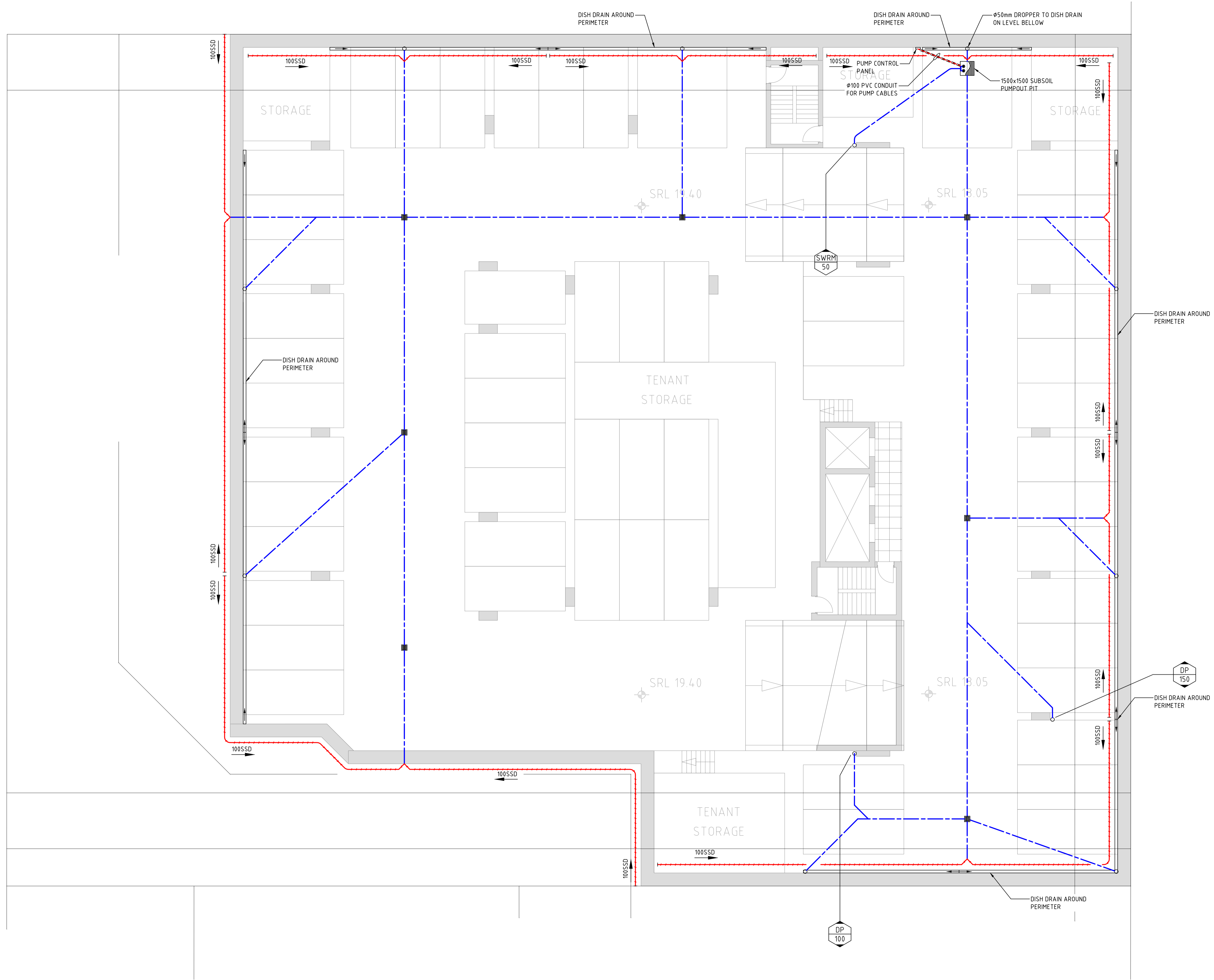
### Rainwater Tank Calculations (per Dwelling) Only complete this section if a Rainwater Tank Approval Credits Claimed

The calculations assume that the same size rainwater tank is installed on each dwelling				
			Min	Max
% of Roof draining to Rainwater Tank	0.0%		Satisfactory	0.0% 100%
Total Rainwater Tank Volume	0.00	kL	Minimum 0.0 kL	
Min Volume that triggers Top-up	0.00	kL	Note - Min Vol in Tank < 10% Total Tank Vol	
Total Tank Vol - Min Top-up Vol	0.00	kL		
Dedicated Airspace				
Dedicated Airspace	0.00	kL	Satisfactory	
	Extended Detention		Detention	
Dedicated Airspace Credit	0.00	kL	0.00	kL
Maximum Tank PSD	40	L/s/ha		
Maximum Tank Discharge	0.0	L/s		
Maximum Head to Centre of Tank Orifice	0.000	m	No Dedicated Airspace	
Calculated Orifice Diameter	0	mm	No Dedicated Airspace	
Dynamic Airspace				
Maximum Dynamic Storage (Nett Vol)	0.00	kL	Controls minimum % Roof to Rainwater Tank	
Daily Demand on Rainwater Tank	0.657	kL/d	Satisfactory	
Dynamic Airspace at start of Storm	0.00	kL		
	Extended Detention		Detention	
Dynamic Airspace Credit	0.00	kL	0.00	kL
Combined Rainwater Tank Credit	0.00	kL	0.00	kL
Maximum Rainwater Tank Credit	0.00	kL	0.00	kL
Rainwater Tank Credit per Dwelling	0.00	kL	0.00	kL
Rainwater Tank Credit for the Site	0.00	m <sup>3</sup>	0.00	m <sup>3</sup>

Signature: 

Date: 29/06/2018

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BASEMENT 3**

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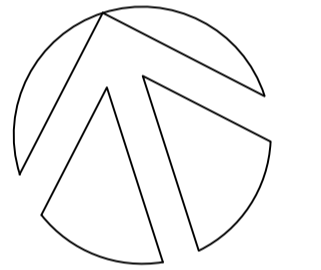
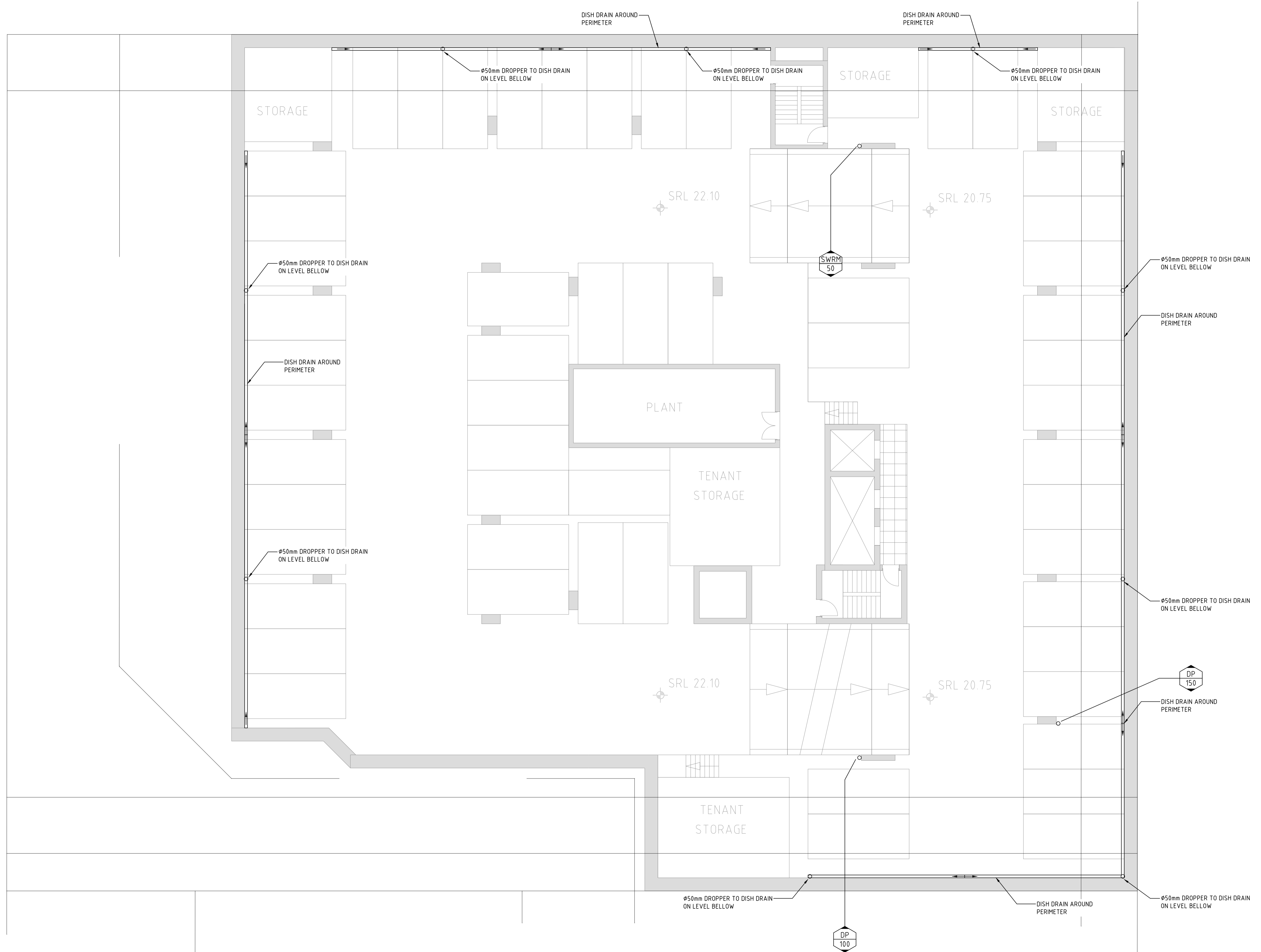
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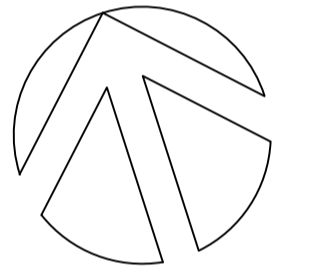
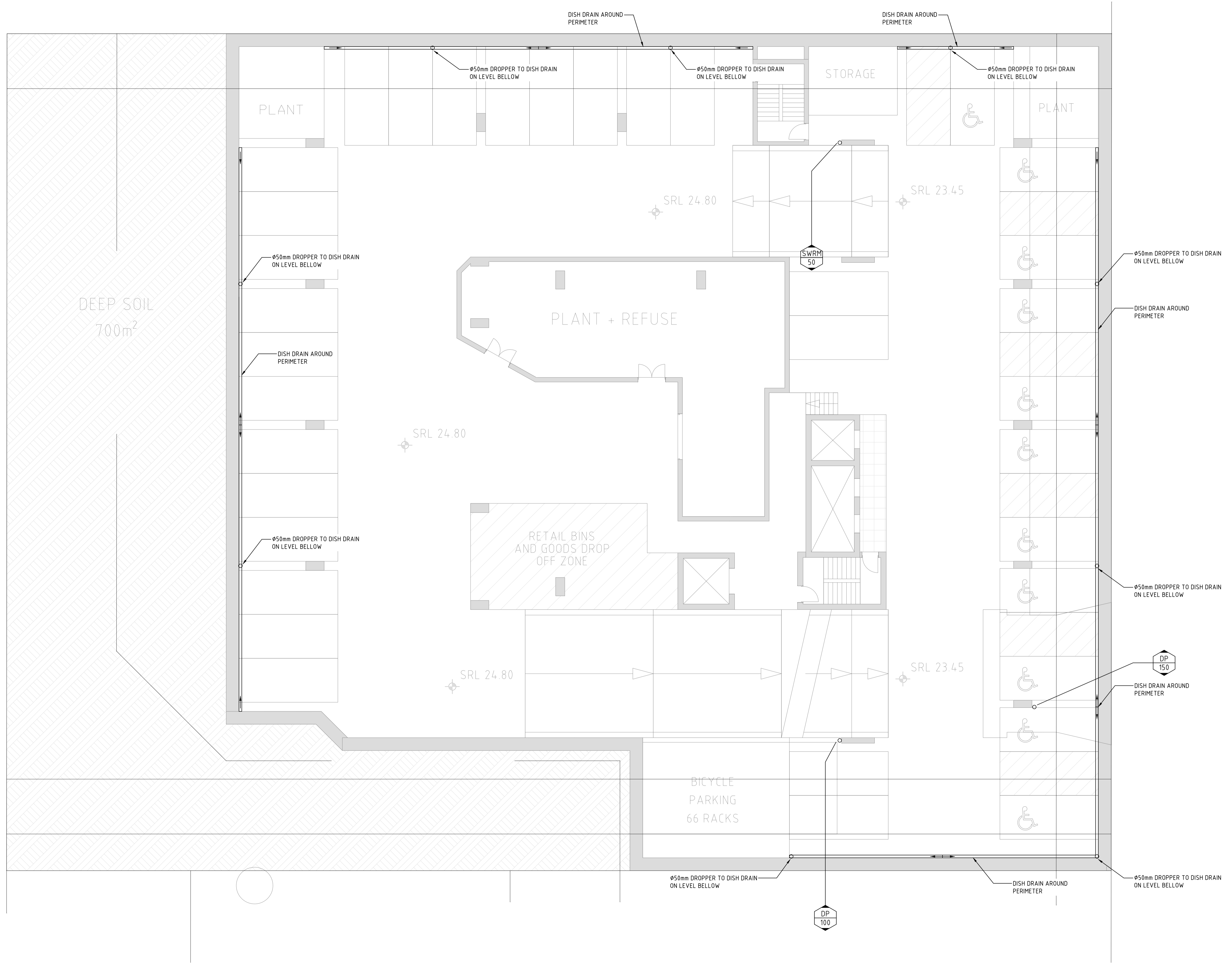
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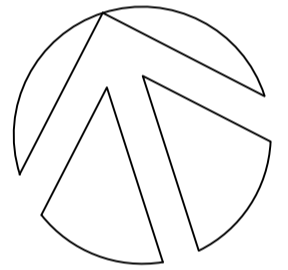
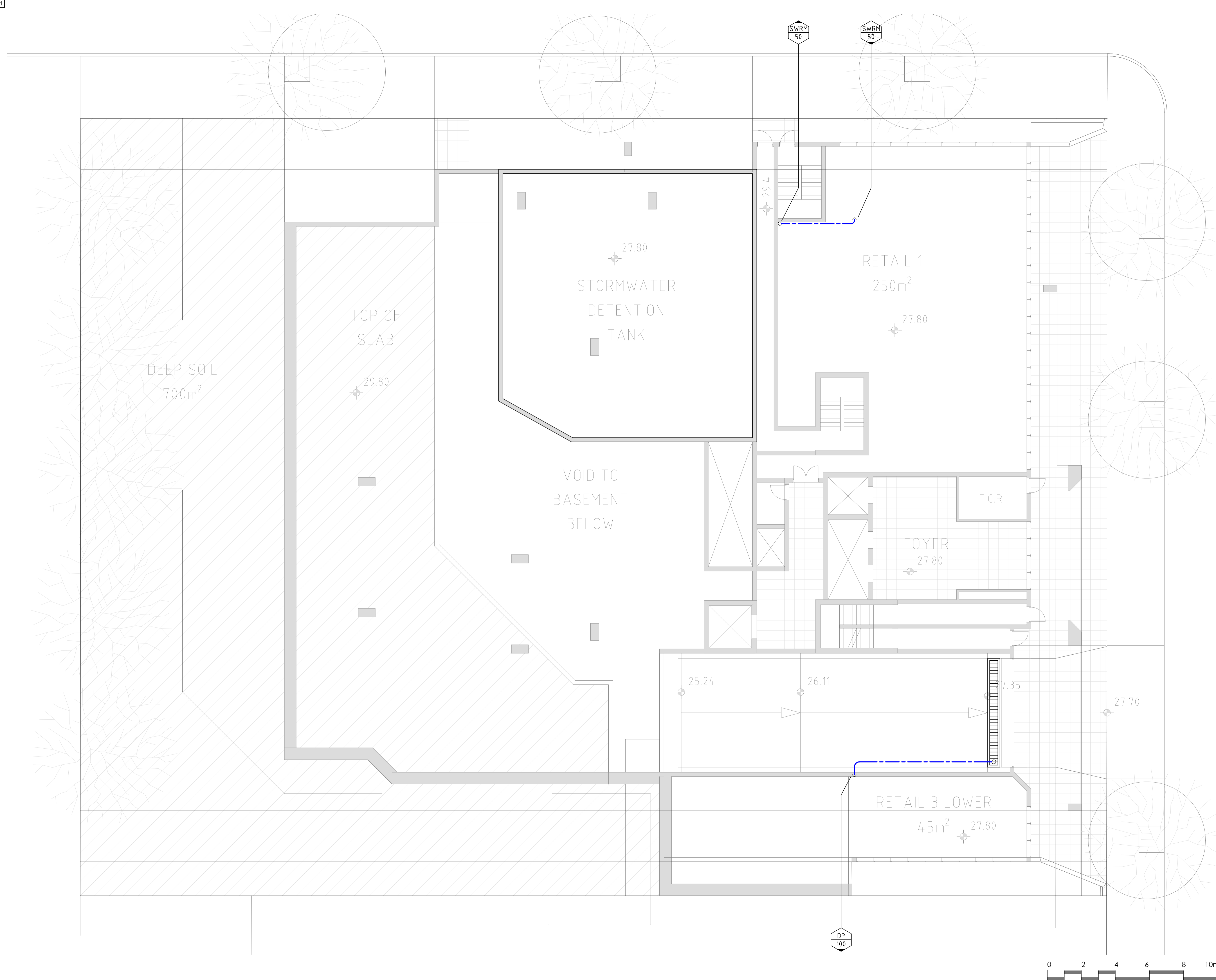
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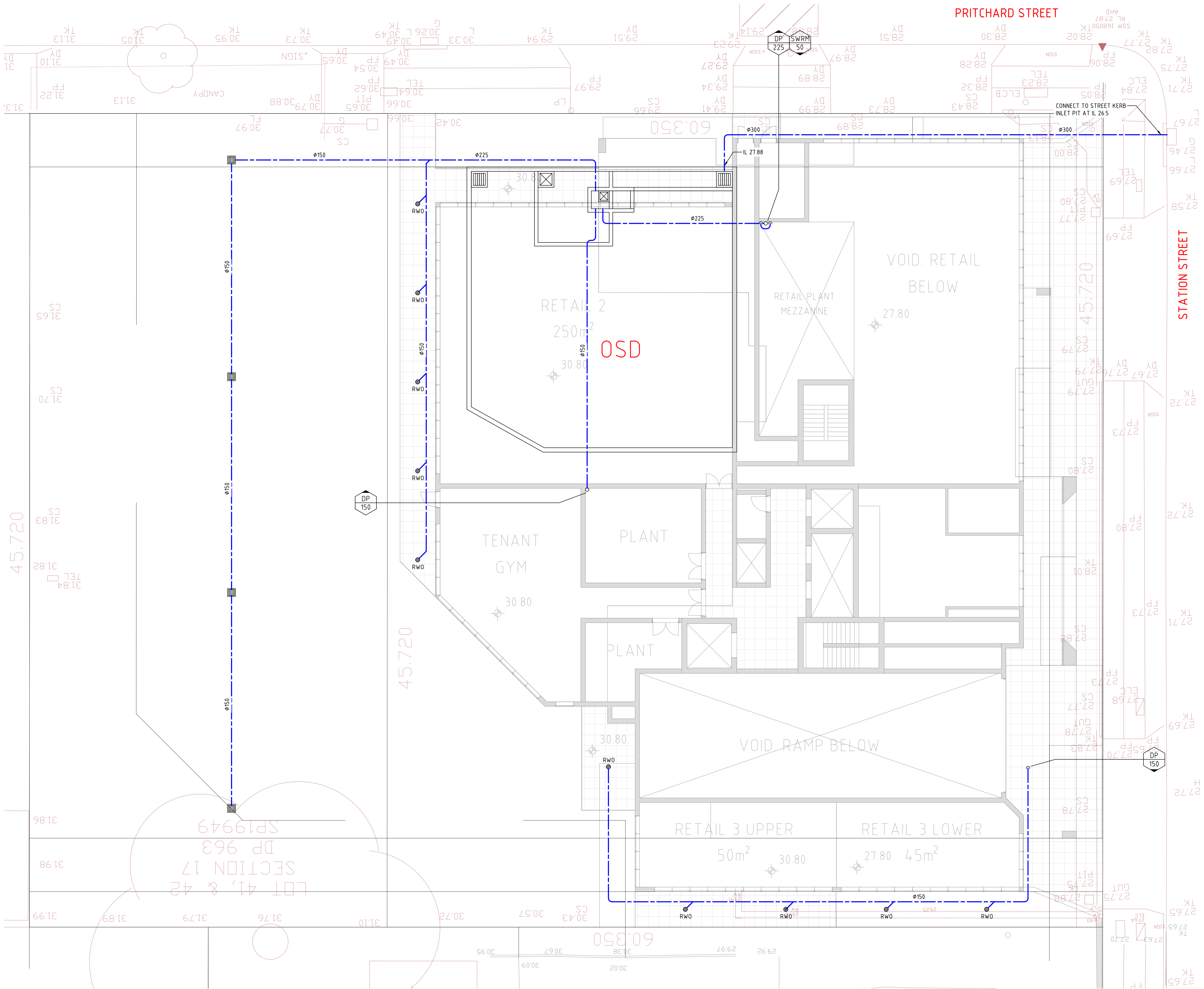
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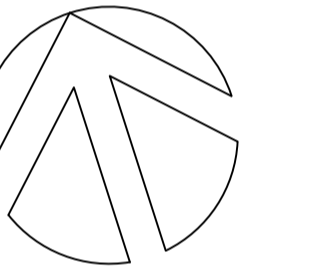


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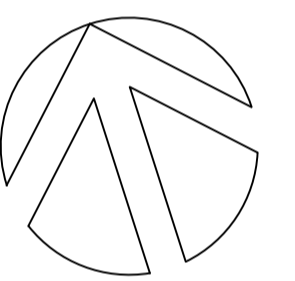
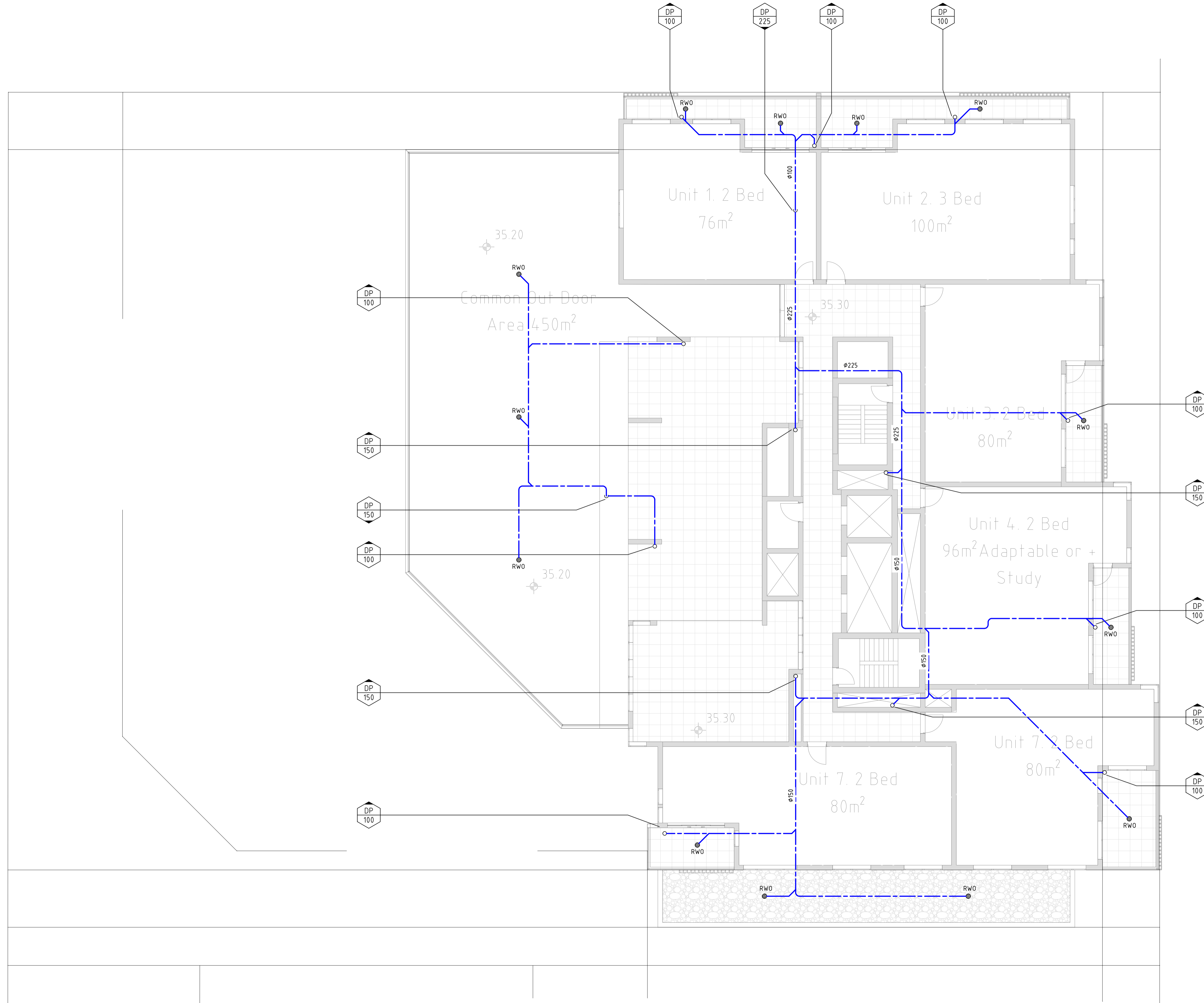
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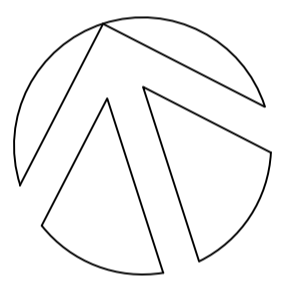
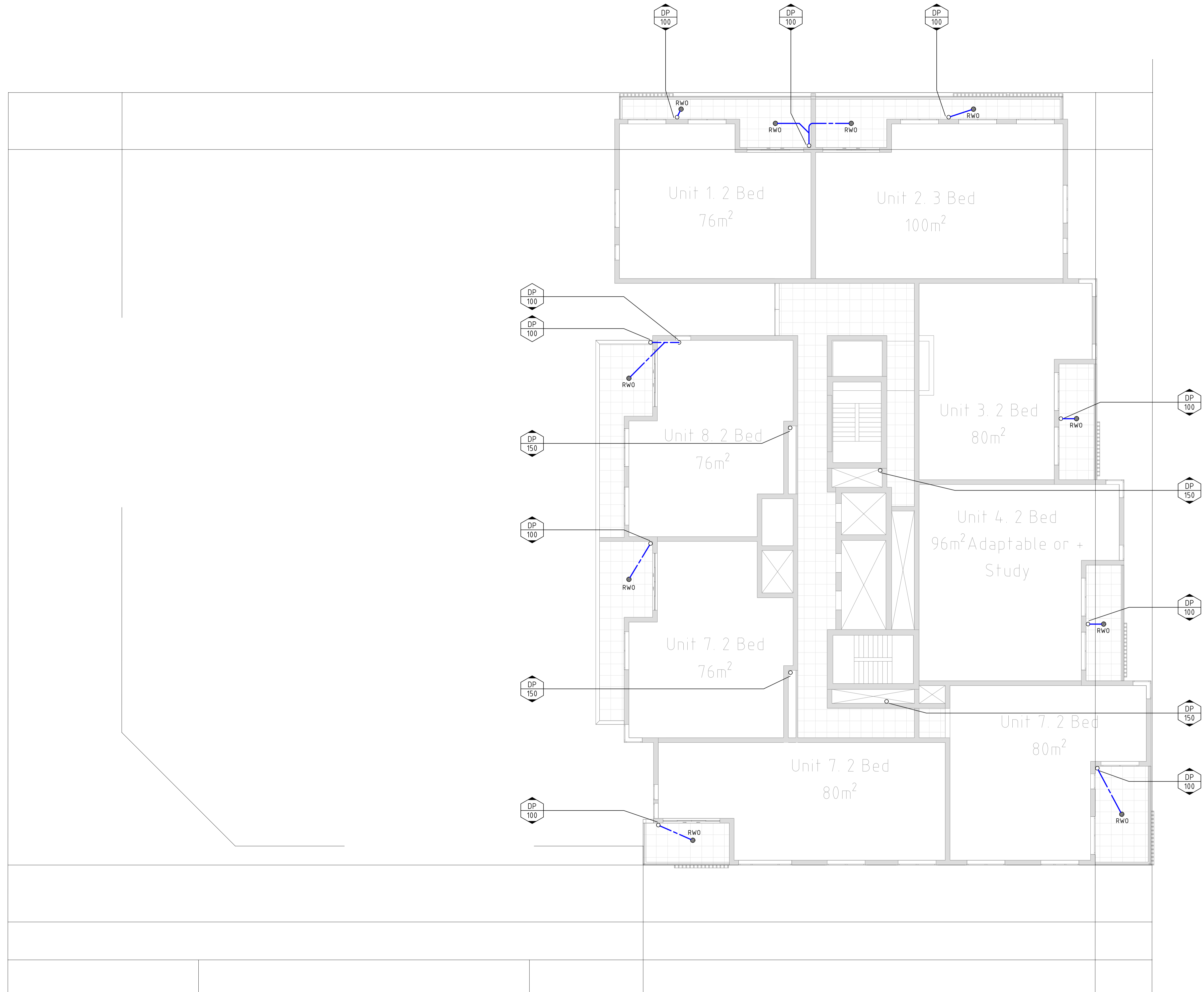
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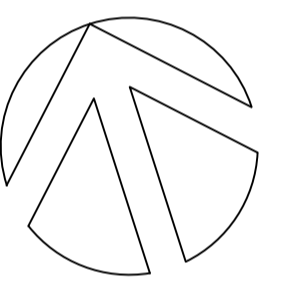
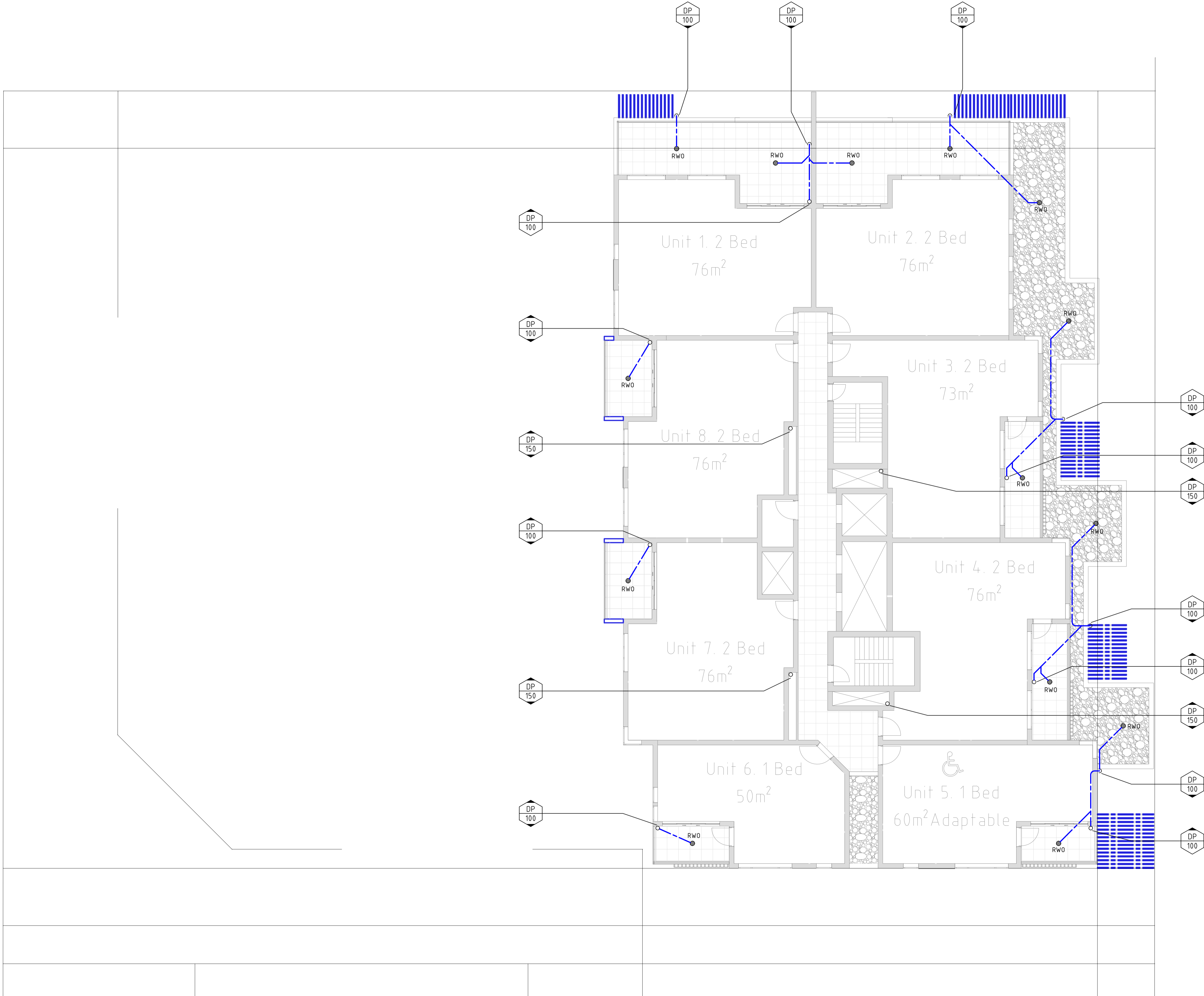
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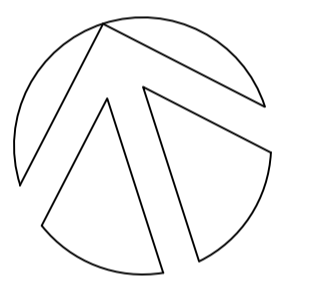
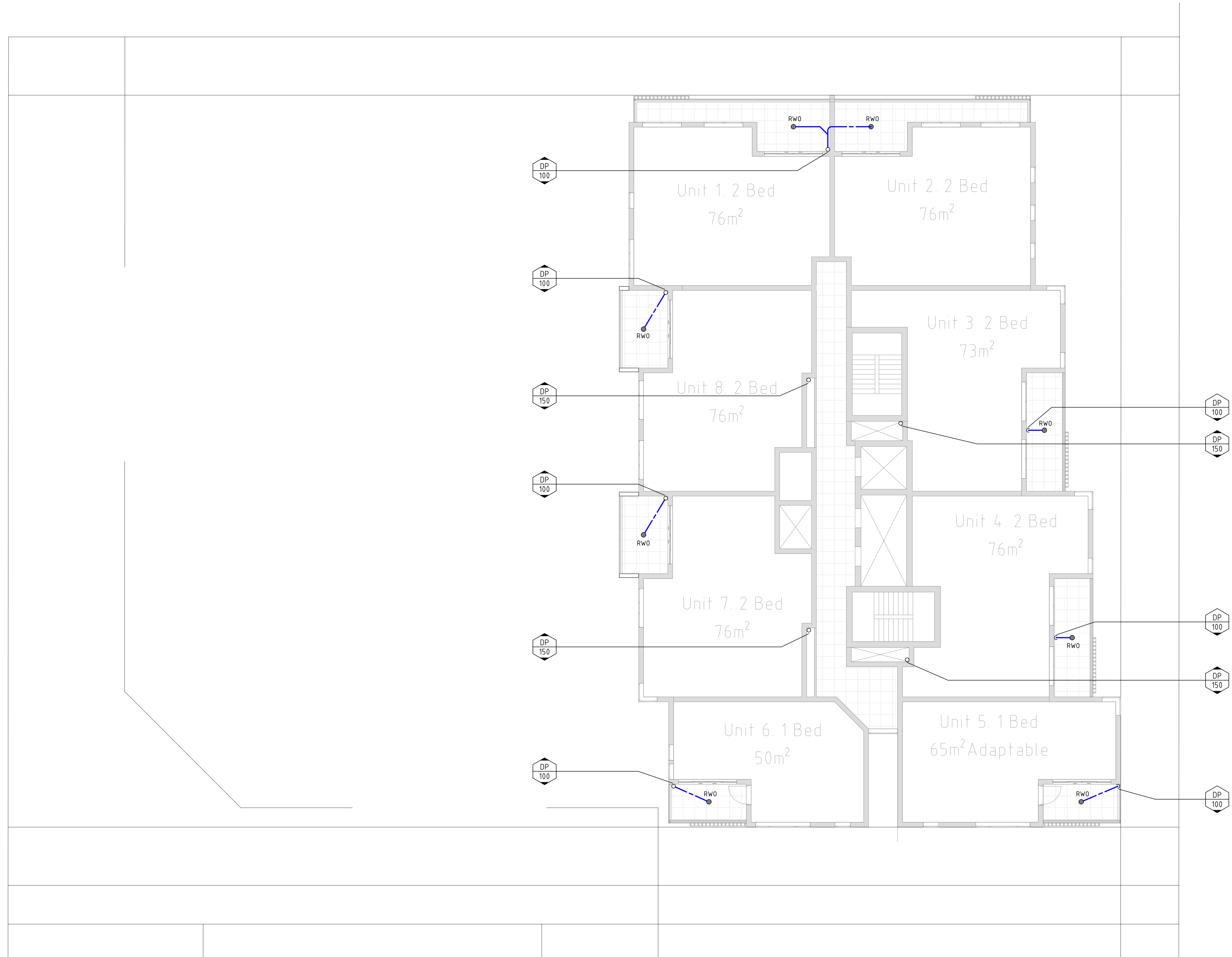
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 LEVEL 6-13 TOWER**

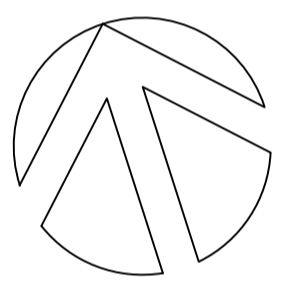
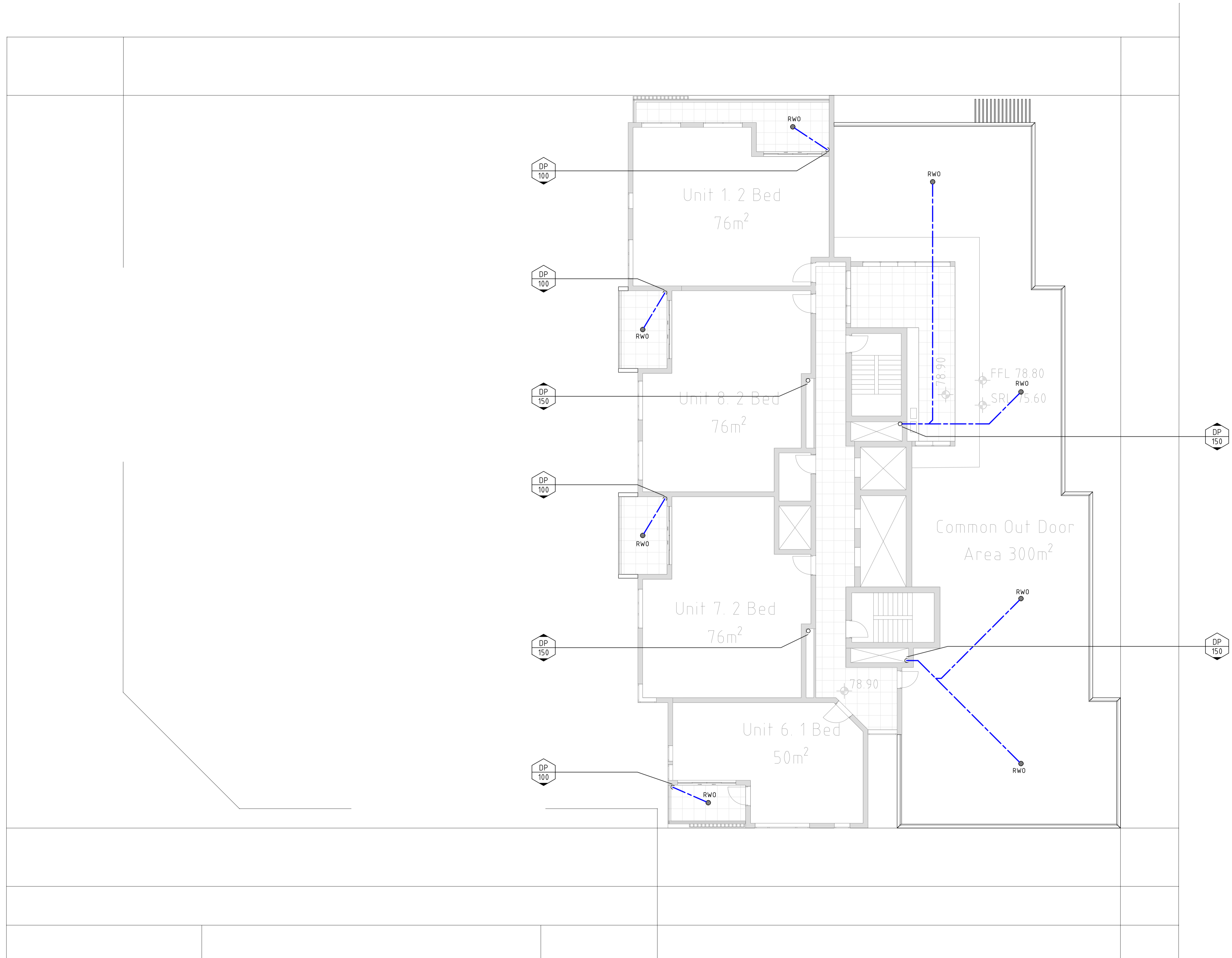
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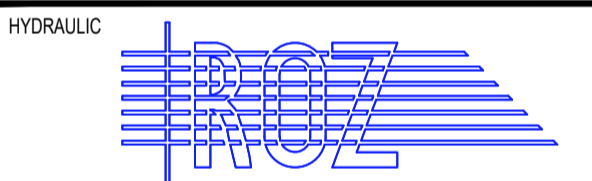


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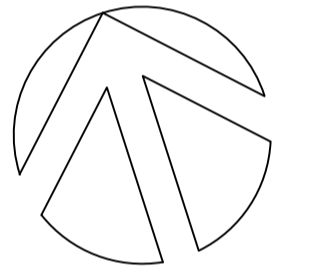
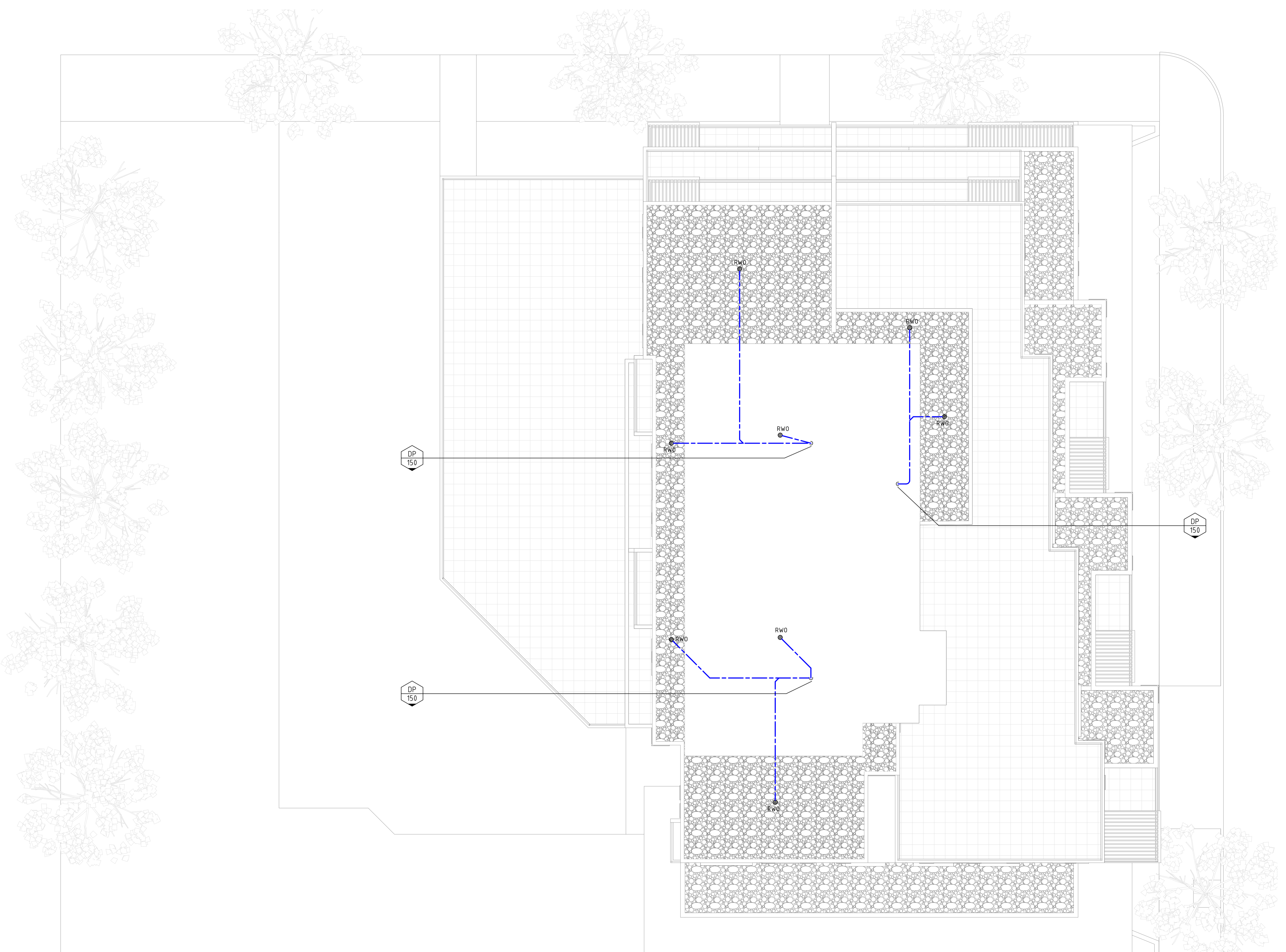
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LEVEL 14 + ROOF TOP  
OPEN SPACE**

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**OPR** **A**

**ARCHITECTS**

CLIENT

PROJECT

STATION STREET,  
WENTHWORTHVILLE

DRAWING TITLE

**STORM WATER CONCEPT PLAN**  
**ROOF PLAN**

SCALE 1:100@A1

DRAWN TM

CHECKED JR

DATE 20.06.2018

JOB NUMBER 2017055

DRAWING NUMBER

**SWC-11**

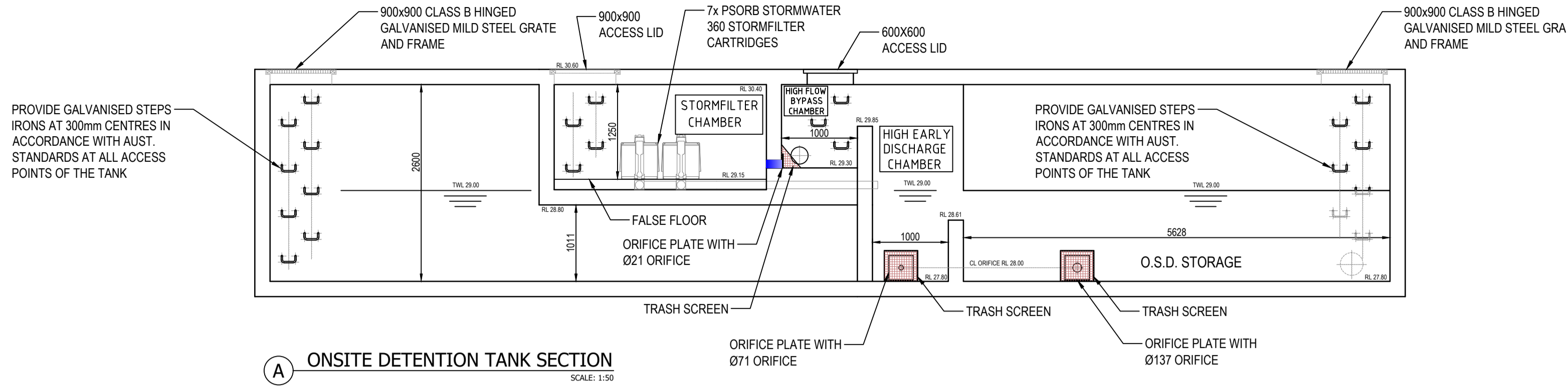
ISSUE

**D**

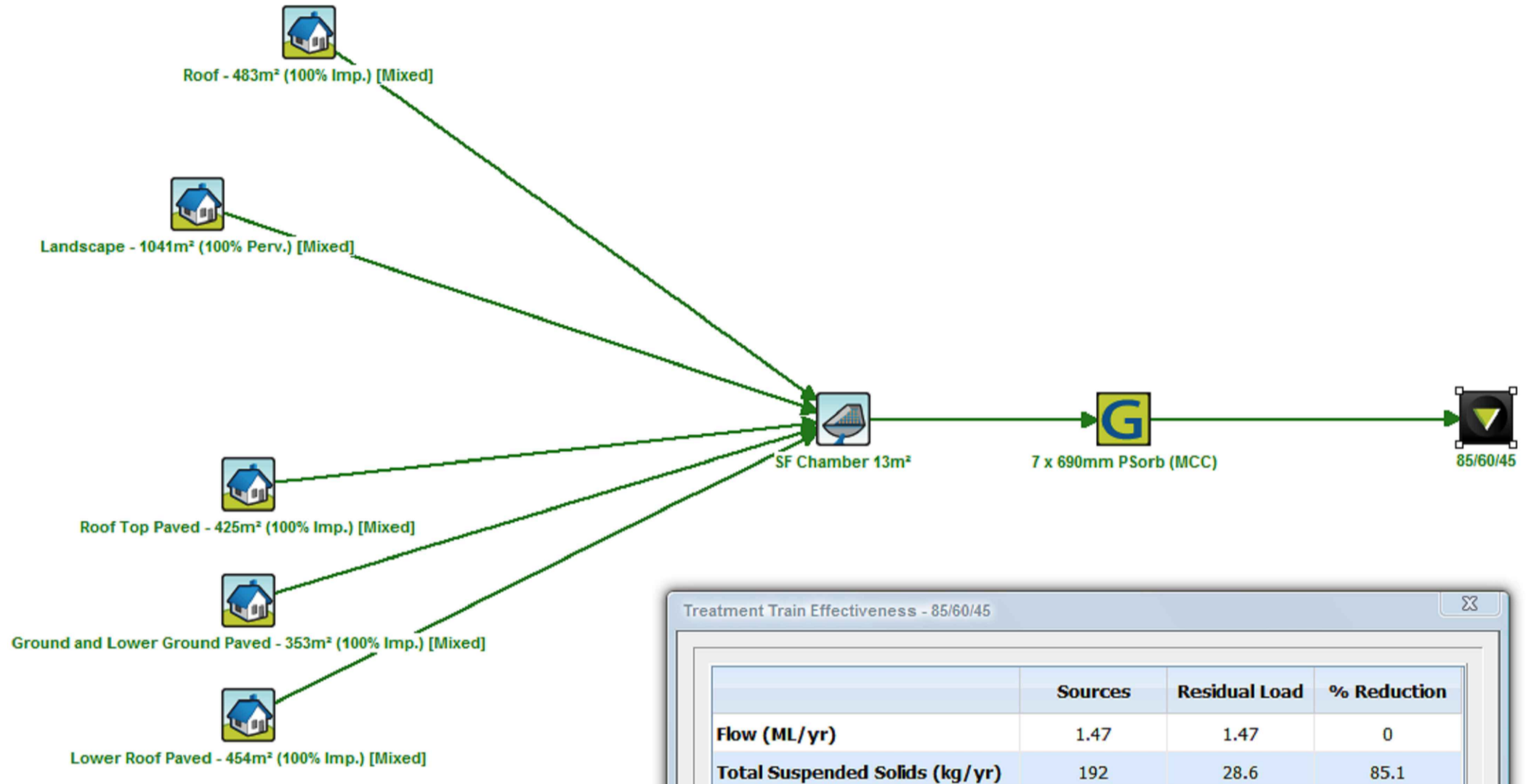


REVISION	DESCRIPTION	DATE
P1	PRELIMINARY	20.06.2018
A	ISSUE FOR DA	29.06.2018
B	ISSUE FOR DA	13.07.2018
C	ISSUE FOR DA - NEW ARCHITECTURE	06.09.2018
D	ISSUE FOR DA - NEW ARCHITECTURE	27.09.2018

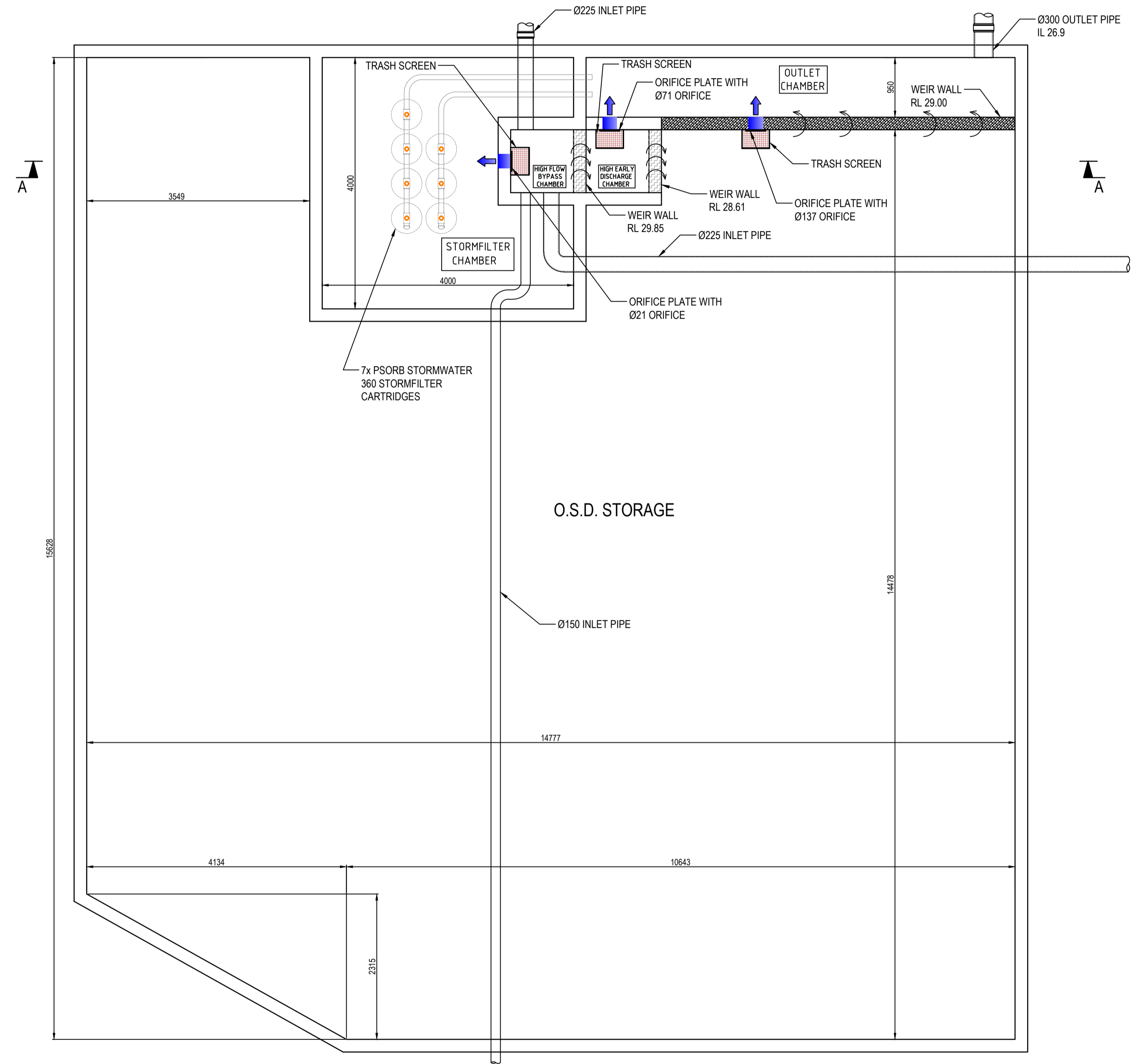
SITE SPECIFIC DATA REQUIREMENTS	
STRUCTURE ID	OSD StormFilter
WATER QUALITY FLOW RATE (L/S)	6.3
PEAK FLOW RATE (L/S)	5.34
RETURN PERIOD OF PEAK FLOW (yrs)	3 Month (43.mm/hr)
# OF CARTRIDGES REQUIRED	7
CARTRIDGE HEIGHT (310, 460 or 690mm)	690
MEDIA TYPE (PERLITE, PERLITE/ZEOLITE OR ZPG) ZPG	PSORB



A ONSITE DETENTION TANK SECTION  
SCALE: 1:50



	Sources	Residual Load	% Reduction
Flow (ML/yr)	1.47	1.47	0
Total Suspended Solids (kg/yr)	192	28.6	85.1
Total Phosphorus (kg/yr)	0.368	0.079	78.5
Total Nitrogen (kg/yr)	3.1	1.51	51.4
Gross Pollutants (kg/yr)	32.6	0	100

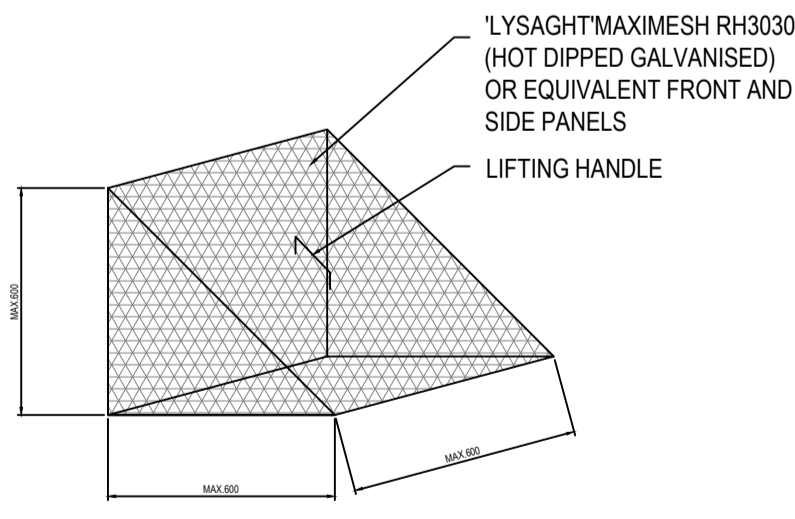


CONFINED SPACE DANGER SIGN



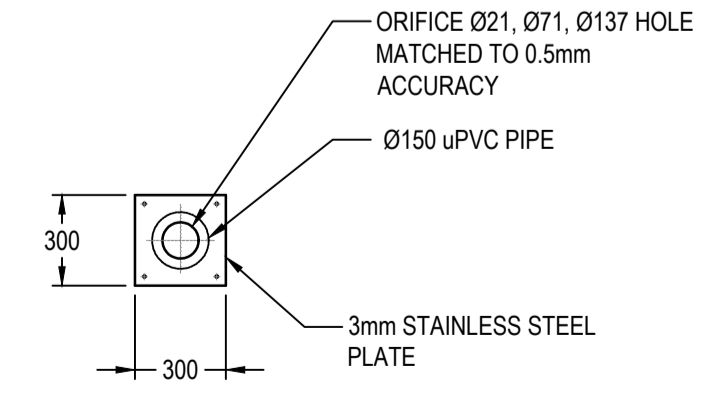
COLOURS: DANGER AND BACKGROUND WHITE  
ELLIPTICAL AREA RED  
RECTANGLE CONTAINING ELLIPSE BLACK  
OTHER LETTERING AND BORDER BLACK

- A) A CONFINED SPACE DANGER SIGN SHALL BE POSITIONED IN A LOCATION SUCH THAT IT IS CLEARLY VISIBLE TO PERSONS PROPOSING TO ENTER THE BELOW GROUND TANKS/ CONFINED SPACE AT ALL ACCESS POINTS OF THE TANK/ CONFINED SPACE.
- B) SIGN TO BE MINIMUM DIMENSIONS:- 300mm x 450mm (LARGE ENTRIES SUCH AS DOORS) 250mm x 180mm (SMALL ENTRIES I.E. GRATES, MANHOLES)
- C) SIGN SHALL BE MANUFACTURED FROM COLOUR BONDED METAL OR POLYPROPYLENE
- D) SIGN SHALL BE AFFIXED TO A SURFACE WITH SCREWS AT EACH CORNER.

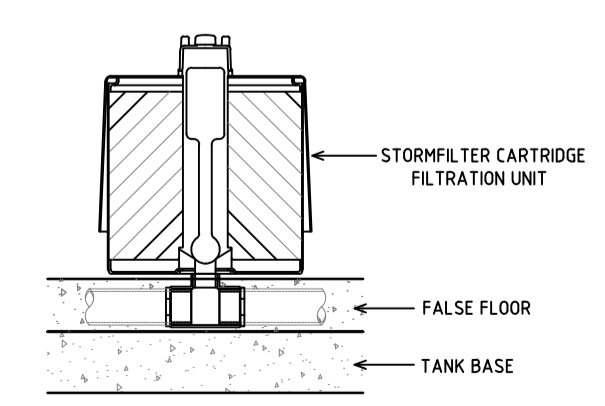


TRASH SCREEN DETAIL  
N.T.S

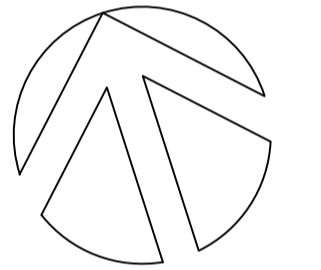
- TRASH SCREEN NOTES
- MAXIMESH SCREENS MUST BE PLACED SUCH THAT THE LONG AXIS OF THE OVAL SHAPED HOLES ARE ORIENTATED HORIZONTALLY WITH THE PORTRUDING LIP ANGLED UPWARDS AND FACING TOWARDS THE OUTLET
  - THE SCREEN IS TO BE FORMED BY WELDING TWO TRIANGULAR MAXIMESH (OR EQUIVALENT) PANELS TO A RECTANGULAR FRONT MAXIMESH PANEL (OR EQUIVALENT)



TYPICAL ORIFICE PLATE DETAIL  
SCALE: NTS



STORMFILTER CARTRIDGE DETAIL  
SCALE: NTS



ISSUE FOR DA

HYDRAULIC

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ARCHITECTS

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CLIENT

PROJECT  
STATION STREET, WENTHWORTHVILLE

DRAWING TITLE  
**STORM WATER CONCEPT PLAN  
OSD DETAILS**

SCALE: 1:50 @ A1  
DRAWN: TM  
CHECKED: JR  
DATE: 20.06.2018  
JOB NUMBER: 2017055

DRAWING NUMBER: **SWC-12** ISSUE: **D**