

Portes Project & Services Pty Ltd

CIVIL & STRUCTURAL ENGINEERING CONSULTING

STORMWATER DESIGN

TABLE: DRAINAGE INSPECTION CHAMBER SIZES

MINIMUM INTERNAL MEASUREMENTS:				
DEPTH TO BASE OF CHAMBER	RECTANGULAR		CIRCULAR	LADDER / STEP IRON
	WIDTH	LENGTH		
SMALLER THAN 600	450	600	600	NO
601 TO 900	600	900	900	NO
GREATER THAN 900	750	1200	1050	YES

STORMWATER

- ALL PIPEWORK TO BE 100mm @ 1% FALL UNO

TABLE: STORMWATER PIT SIZES

MINIMUM INTERNAL MEASUREMENTS:				
DEPTH TO BASE OF CHAMBER	RECTANGULAR		CIRCULAR	LADDER / STEP IRON
	WIDTH	LENGTH		
SMALLER THAN 600	450	450	600	NO
601 TO 900	600	600	900	NO
901 TO 1200	600	900	1050	NO
GREATER THAN 1200	900	900	1050	YES

SERVICE	MATERIAL			
	ABBREVIATION	DESCRIPTION	STANDARD	NOTES
STORMWATER DRAINAGE	UPVC	UNPLASTICIZED POLYVINYL CHLORIDE	- AS 1254 - AS 1260 - AS 2032	- BELOW GROUND - ABOVE GROUND - INSTALLATION
		RCP	REINFORCED CONCRETE	- AS 4058 - AS 3725
	HDPE	HIGH DENSITY POLYETHYLENE	INSTALLED IN ACCORDANCE WITH MANUFACTURERS (UNIMEX / GEBERT) REQUIREMENTS	
	FRC	FIBRE REINFORCED CEMENT	- AS 4139 - AS 3725	- CLASS 4 UNO - LAYING & INST.

IMPORTANT - FOR PRINCIPAL CONTRACTOR

TO ENABLE THE ISSUE OF STORMWATER CERTIFICATION PERMITTING OCCUPATION IN ALIGNMENT WITH COUNCIL LEGISLATION, SITE INSPECTIONS MUST OCCUR. THE PRINCIPAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL STORMWATER INSPECTIONS. ABSENCE OF INSPECTION WILL PREVENT ISSUE OF STORMWATER CERTIFICATION. SITE INSPECTIONS ARE TO BE COMPLETED BY PORTES PROJECTS & SERVICES (PPS) AS FOLLOWS:

SYMBOLS

TWL	TOP WATER LEVEL
FFL	FINISHED FLOOR LEVEL
FGL	FINISHED GARAGE LEVEL
TK	TOP OF KERB
RL11.0	FINISHED LEVEL
	EXISTING LEVEL
SL	PIT SURFACE LEVEL
IL	INVERT LEVEL
	DOWNPIPE AND STORMWATER PIPE
• DP	DOWN PIPE
SP	SPREADER
• IP	INSPECTION POINT
	MASONRY RETAINING WALL
TW 81.20	TOP OF WALL LEVEL
FW ₍₁₅₀₀₎	FLOOR WASTE 1500
	GRATED INLET PIT - NON TRAFFICABLE - CHILD SAFE LID
	GRATED DRAIN - TRAFFICABLE TRANSVERSE
	RAIN WATER HEAD
	OVER FLOW POINT (Ø40mm MIN)
	PIPE FLOW
	RUNOFF FLOW DIRECTION
	EMERGENCY OVERLAND FLOW PATH

**UNDERGROUND SERVICES IN THE FOOTPATH AREA
MAY AFFECT THE DESIGN OF THE STORMWATER
SYSTEM. DIAL 1100 BEFORE YOU DIG FOR THEIR
LOCATION DIAL 1100 DIAL BEFORE YOU DIG
BEFORE CONSTRUCTION COMMENCES**

RAINWATER STORAGE VERIFICATION

CHECKLIST OF CERTIFICATION ITEMS FOR VERIFICATION BY SURVEYOR

AVERAGE STORAGE TANK DIMENSIONS

AVERAGE LENGTH = _____ m
AVERAGE WIDTH = _____ m
AVERAGE DEPTH = _____ m

AVAILABLE VOLUME OF STORED WATER (BETWEEN PUMP SUCTION & OVERFLOW LEVEL) = _____ m³

COVER LEVEL OF TANK ACCESS = RL m AHD

NOTE:
THE SURVEYOR SHALL ADVISE ON ANY VARIATION TO THE APPROVED TANK LEVELS
AND THIS INFORMATION SHALL BE CLEARLY MARKED ON THE AS-BUILT DRAWINGS.

NAME OF SURVEYOR:
DATE:

DETENTION STORAGE VERIFICATION

CHECKLIST OF CERTIFICATION ITEMS FOR VERIFICATION BY SURVEYOR

AVERAGE STORAGE TANK OR BASIN DIMENSIONS:

AVERAGE LENGTH = _____ n
AVERAGE WIDTH = _____ n
AVERAGE DEPTH = _____ n

AVAILABLE VOLUME OF STORED WATER
(BETWEEN ORIFICE & OVERFLOW LEVEL) = _____ m³

SPOT LEVELS:

TOP OF BASIN WALL OR TANK OVERFLOW LEVEL = RL _____ m AHD
 GRATE LEVEL OF CONTROL PIT OR TANK ACCESS = RL _____ m AHD
 CENTRE OF ORIFICE = RL _____ m AHD
 COMPONENT SIZES:
 DIAMETER OF ORIFICE = _____ mm DIA
 DIAMETER OF OUTLET PIPE = _____ mm DIA
 SIZE OF OPENINGS IN DEBRIS SCREEN = _____ mm

NOTE:
THE SURVEYOR SHALL ADVISE ON ANY VARIATION TO THE APPROVED TANK LEVELS.
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NAME OF SURVEYOR
DATE:

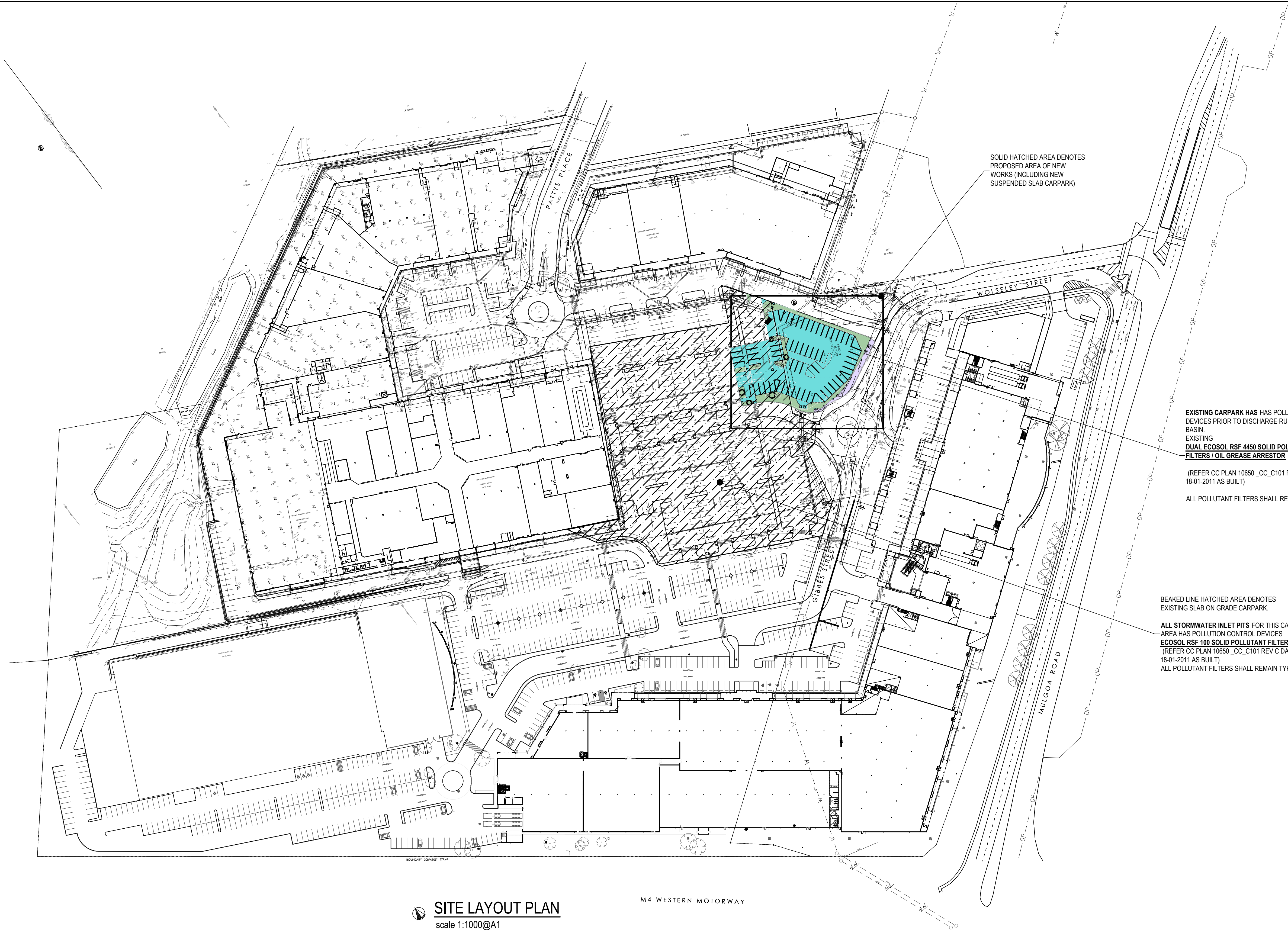
DRAWING LIST

- D1 GENERAL NOTES
- D2 SITE LAYOUT GENERAL
- D3 CARPARK / BASIN LOCALIZED LAYOUT PLAN
- D4 CARPARK / BASIN BASE LAYOUT PLAN
- D5 CARPARK SUSPENDED SLAB LAYOUT PLAN
- D6 SECTIONS & DETAILS

A	FOR COMMENTS	MP	07-12-15
AP	REVISION DESCRIPTION	DRAWN	DATE

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- NOTES:
1. REFER GENERAL NOTES FOR SPECIFICATIONS
 2. REFER TO ARCHITECTS DRAWINGS FOR ALL SET-OUT DIMENSIONS, LEVELS, SETDOWNS, HOBS AND FALLS



SITE LAYOUT PLAN

scale 1:1000@A1

- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN APPROVAL AS REQUIRED FROM COUNCIL FOR ANY WORKS SHOWN ON THIS DRAWING PRIOR TO THE COMMENCEMENT OF THOSE WORKS.

NO.	REVISION DESCRIPTION	DRAWN	DATE
C	ISSUED FOR DA	MP	16-12-15
B	ISSUED FOR DA	MP	13-12-15
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PROJECT TITLE:
PENRITH HOME/MAKER CENTRE
CNR. MULGOA ROAD AND WOLSELEY STREET, PENRITH

DRAWING TITLE:
STORMWATER DRAINAGE CONCEPTUAL DESIGN
SITE LAYOUT PLAN



Registered Professional Engineer 1149560
Mr Marcio Rodrigues Portes
MIE Aust CP Eng (Civil/Structural) NPER
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DA ISSUE

DATE	DRAWING SIZE	SCALE
01-12-2015	A1	1:100 @ A1 1:200 @ A3
PROJECT NUMBER: 15-306		
DRAWING D2	ISSUE C	

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EXISTING CARPARK HAS HAS POLLUTION CONTROL DEVICES PRIOR TO DISCHARGE RUNOFF INTO BASIN.

EXISTING
DUAL ECOSOL RSF 4450 SOLID POLLUTANT FILTERS / OIL GREASE ARRESTOR

(REFER CC PLAN 10650 _CC_C101 REV C DATED 18-01-2011 AS BUILT)

ALL POLLUTANT FILTERS SHALL REMAIN TYPICAL

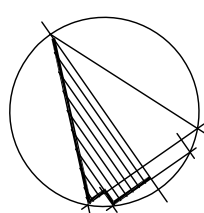
BEAKED LINE HATCHED AREA DENOTES EXISTING SLAB ON GRADE CARPARK.

ALL STORMWATER INLET PITS FOR THIS CARPARK AREA HAS POLLUTION CONTROL DEVICES
ECOSOL RSF 100 SOLID POLLUTANT FILTERS INLET

(REFER CC PLAN 10650 _CC_C101 REV C DATED 18-01-2011 AS BUILT)
ALL POLLUTANT FILTERS SHALL REMAIN TYPICAL

SITE LAYOUT PLAN - EXISTING BASIN LEVELS AND PROPOSED CARPARK OVERLAY

STORMWATER CONCEPTUAL DESIGN PLAN
scale 1:200@A1



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UNDERGROUND SERVICES IN THE FOOTPATH AREA MAY AFFECT THE DESIGN OF THE STORMWATER SYSTEM. DIAL 1100 BEFORE YOU DIG FOR THEIR LOCATION DIAL 1100 DIAL BEFORE YOU DIG BEFORE CONSTRUCTION COMMENCES



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SOLID HATCHED AREA DENOTES PROPOSED NEW AREA OF WORKS (SUSPENDED SLAB CARPARK INCLUSIVE)

SITE DETAILS

EXISTING BASIN VOLUME	1,085 m ³
PROPOSED ADDITIONAL IMPERVIOUS AREA OVER EXISTING BASIN (PROPOSED CARPARK)	1,275 m ²
ADDITIONAL VOLUME REQUIRED DUE TO ADDITIONAL IMPERVIOUS (SSR = 280 m ³ / ha)	35.7 m ³
TOTAL BASIN VOLUME PROVIDED (MINIMUM)	1,120.7 m ³

STORMWATER MANAGEMENT CONSIDERATION

- NEW CARPARK TO MAINTAIN EXISTING BASIN
- EXISTING BASIN VOLUME TO BE INCREASED TO ACCOMMODATE ADDITIONAL IMPERVIOUS AREA
- POLLUTION CONTROL DEVICES TO BE UPGRADED TO ACCOMMODATE ADDITIONAL IMPERVIOUS AREA

GENERAL NOTES

CONFIRM LOCATION, SIZE, CONDITION AND LEVELS OF ALL EXISTING SERVICES PRIOR TO COMMENCEMENT OF WORK

ALL WORK TO BE IN ACCORDANCE WITH SPECIFICATION, AUTHORITIES REQUIREMENTS, BCA AND RELEVANT AUSTRALIAN STANDARDS (IN PARTICULARLY AS 3500)

DISCONNECT, CAP OFF AND REMOVE ALL EXISTING, REDUNDANT SERVICES TO AUTHORITIES APPROVAL

ALL DRAWINGS TO BE READ IN CONJUNCTION WITH ARCHITECTURAL AND OTHER CONSULTANTS DOCUMENTS. ALL DISCREPANCIES SHALL BE REFERRED TO THE PROJECT MANAGER BEFORE PROCEEDING WITH THE WORK

LOCATION OF ALL PIPEWORK IS DIAGRAMMATIC ONLY FINAL LOCATION TO BE CO-ORDINATED ON SITE AND APPROVED BY THE PROJECT MANAGER PRIOR TO COMMENCEMENT OF ANY WORK

DRAWING STATUS

DA ISSUE

NO.	REVISION/DESCRIPTION	DRAWN	DATE
1	ISSUED FOR DA	MP	16-12-15
2	ISSUED FOR DA	MP	16-12-15
3	FOR COMMENTS	MP	07-12-15

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CNR, MULGOA ROAD AND WOLSELEY STREET, PENRITH

DRAWING TITLE:
STORMWATER DRAINAGE CONCEPTUAL DESIGN
SITE LAYOUT PLAN
EXISTING BASIN AND PROPOSED CARPARK LAYOUT



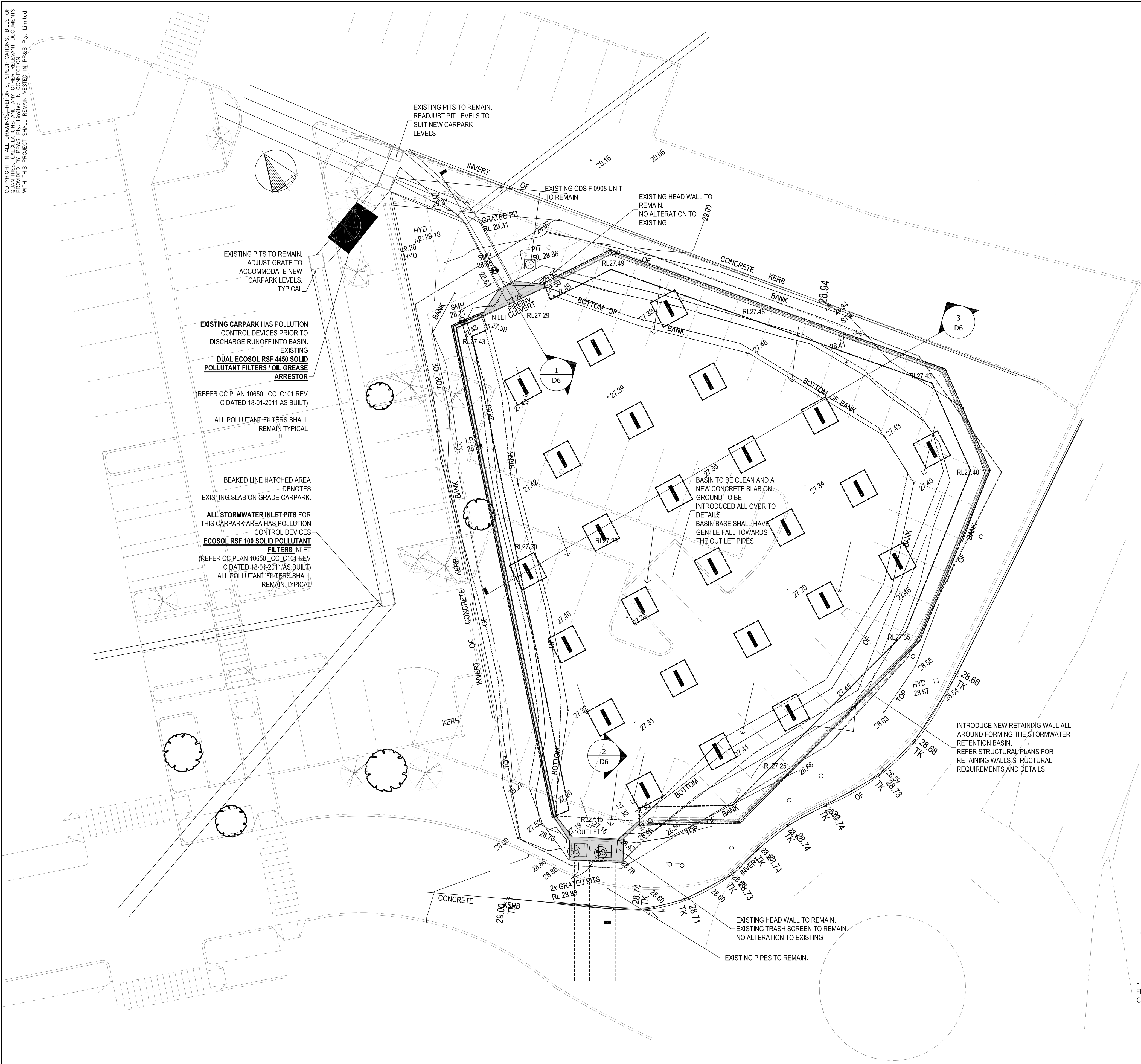
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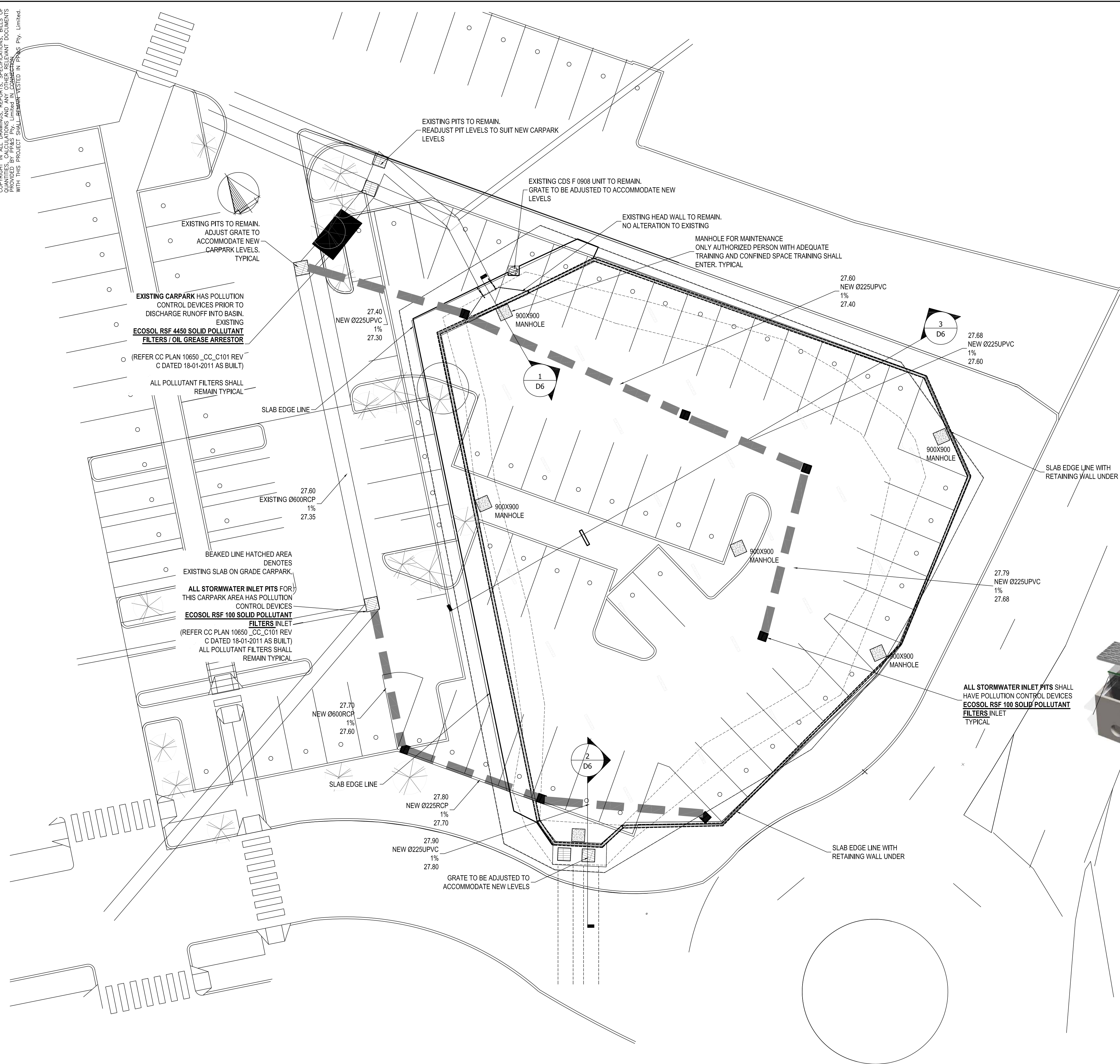
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01-12-2015	A1	1:100 @ A1 1:200 @ A3
PROJECT NUMBER: 15-306		
DRAWING D3	ISSUE C	

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SITE DETAILS

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PROPOSED ADDITIONAL IMPERVIOUS AREA OVER EXISTING BASIN (PROPOSED CARPARK)	1,275 m²
ADDITIONAL VOLUME REQUIRED DUE TO ADDITIONAL IMPERVIOUS (SSR = 280 m³ / ha)	35.7 m³
TOTAL BASIN VOLUME PROVIDED (MINIMUM)	1,120.7 m³

STORMWATER MANAGEMENT CONSIDERATION

- NEW CARPARK TO MAINTAIN EXISTING BASIN
- EXISTING BASIN VOLUME TO BE INCREASED TO ACCOMMODATE ADDITIONAL IMPERVIOUS AREA
- POLLUTION CONTROL DEVICES TO BE UPGRADED TO ACCOMMODATE ADDITIONAL IMPERVIOUS AREA

SITE LAYOUT PLAN - PROPOSED CARPARK LAYOUT PLAN
STORMWATER CONCEPTUAL DESIGN PLAN
scale 1:150@A1
- CARPARK SUSPENDED SLAB OVER EXISTING STORMWATER RETENTION BASIN
- REFER STRUCTURAL ENGINEERS PLANS FOR SUSPENDED SLAB DETAILS

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CARPARK LAYOUT PLAN



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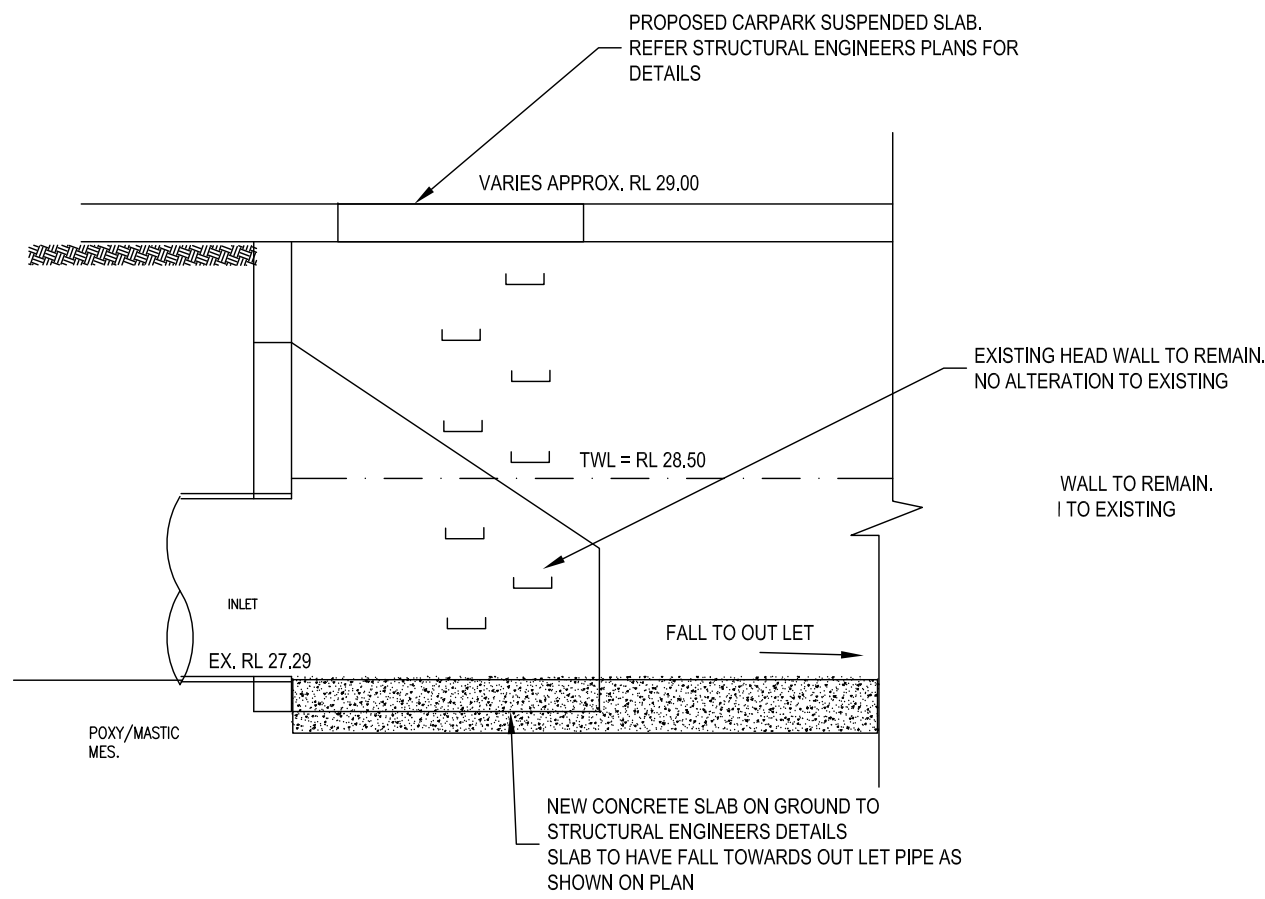


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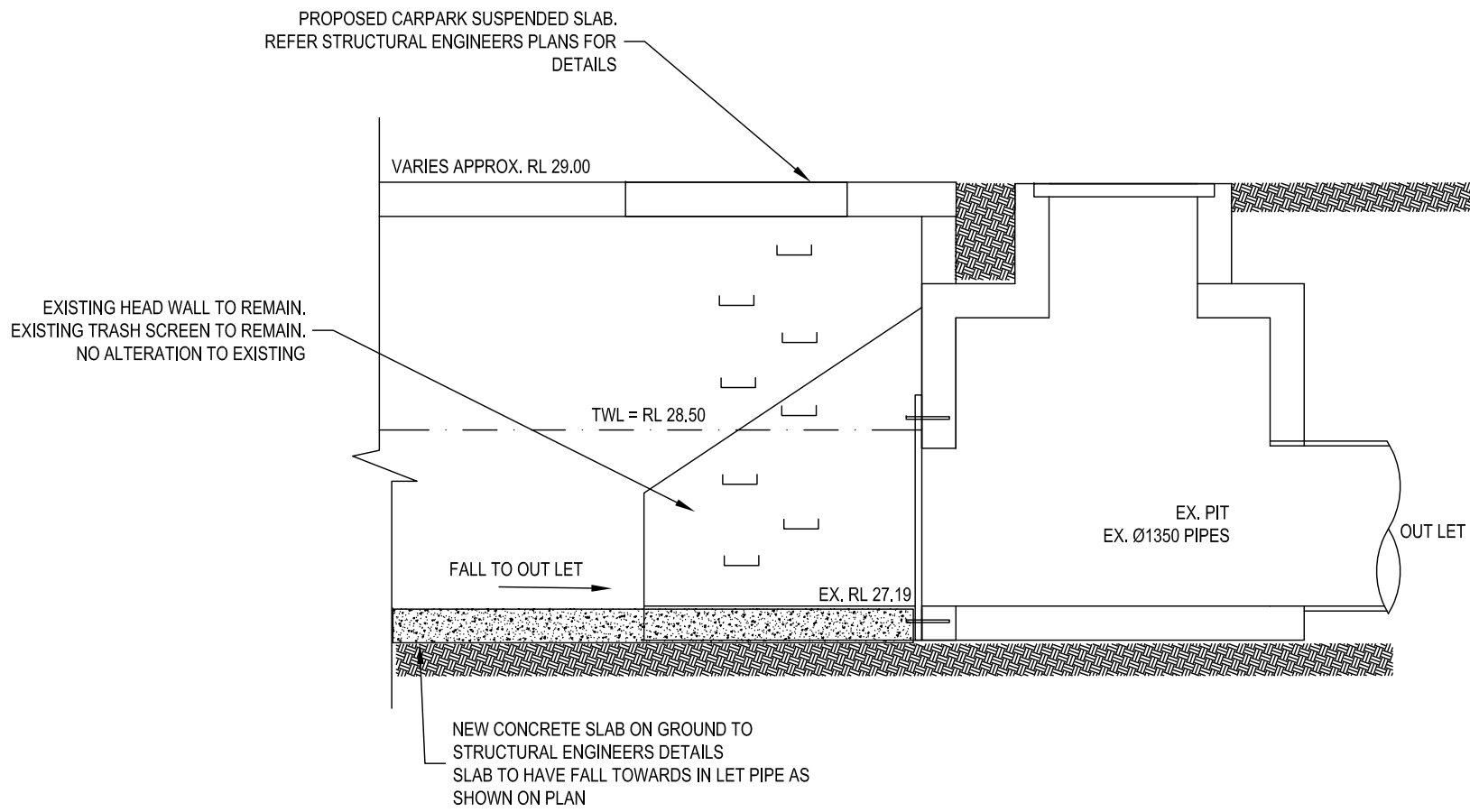
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01-12-2015	A1	1:100 @ A1 1:200 @ A3
PROJECT NUMBER: 15-306		
DRAWING D5	ISSUE C	

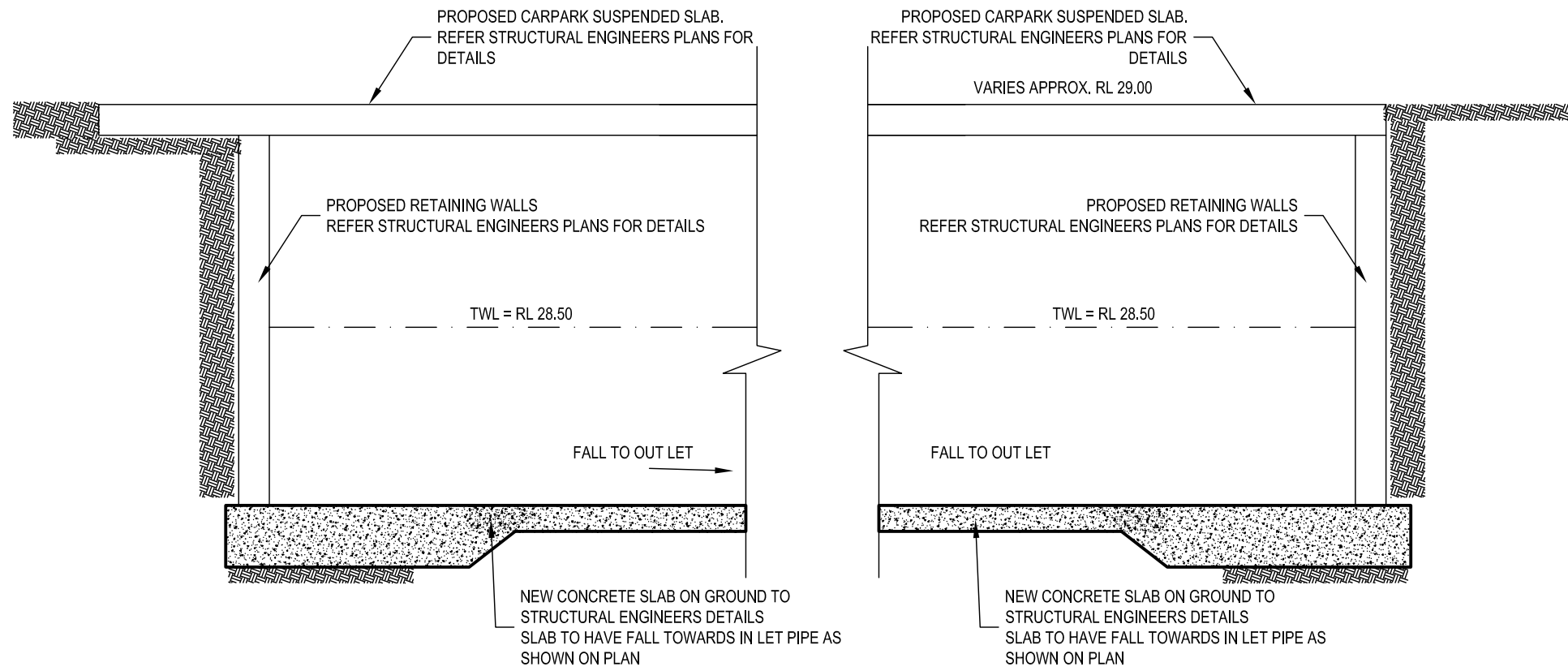
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SECTION 1
1:50@A1



SECTION 2
1:50@A1



SECTION 3
1:50@A1

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SECTIONS & DETAILS



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