

- STORMWATER NOTES:**
1. ALL PIPES TO BE 100mm Ø UNLESS NOTED OTHERWISE.
  2. ALL PIPES TO BE UPVC UNLESS NOTED OTHERWISE.
  3. ALL PIPES TO BE LAID AT 1 % MINIMUM GRADE UNLESS NOTED OTHERWISE.
  4. ALL PIPES SHALL BE LAID ON A 75mm SAND BED, COMPACTED TO 100% S.M.D.D. BELOW PAVEMENTS. (NO COMPACTION REQUIRED BELOW LANDSCAPING) COVER TOP SURFACE FROM TOP OF PIPE TO BE 300mm MINIMUM BACKFILL TO BE ADEQUATELY CONSOLIDATED AROUND PIPES BY METHOD OF RAMPING AND WATERING IN TRENCHES TO BE FILLED WITH GRANULAR MATERIAL, AS SPECIFIED.
  5. ALL PIPES SHOWN ON PLAN ARE SHOWN INDICATIVELY ONLY & MINIMUM CLEARANCES FROM THE EXTERNAL WALLS OF BUILDINGS, FOR THE EXCAVATION OF TRENCHES, ARE TO BE PROVIDED IN ACCORDANCE WITH AS3500.
  6. ALL DOWN PIPES TO BE 90mm Ø UNLESS NOTED OTHERWISE.
  7. DOWN PIPE LOCATIONS ARE INDICATIVE ONLY. LOCATIONS TO BE CONFIRMED WITH ARCHITECT PRIOR TO COMMENCEMENT OF WORK.
  8. PROVIDE CLEANING EYES AT ALL DOWNPIPES UNDO.
  9. ALL PITS GREATER THAN 1000mm DEEP SHALL HAVE STEP IRONS AS PER COUNCIL STANDARDS.
  10. ALL WORK TO BE IN ACCORDANCE WITH LOCAL COUNCIL STANDARDS AND SPECIFICATIONS.
  11. ALL LEVELS SHOWN ARE TO AHD.
  12. ENSURE THAT ALL PITS AND STORMWATER PIPES ARE LOCATED CLEAR FROM TREE ROOT SYSTEMS.
  13. EXCAVATION OF TRENCHES ADJACENT TO TREES TO BE CARRIED OUT USING HAND TOOLS ONLY.
  14. ALL EXISTING EARTHENWARE PIPES TO BE UPGRADED TO UPVC.
  15. ALL WORKS TO BE IN ACCORDANCE WITH AS 3500.
  16. THE FOLLOWING ABBREVIATIONS DENOTE:  
FSL - FINISHED SURFACE LEVEL  
INV - INVERT
  17. PROVIDE FALLS IN SURFACES TO ALL PITS, GRATED DRAINS & FLOOR DRAINS IN ACCORDANCE WITH AS3500 & ARCHITECT'S DETAILS.

RL65.15 DENOTES EXISTING LEVELS  
RL65.15 DENOTES PROPOSED LEVELS

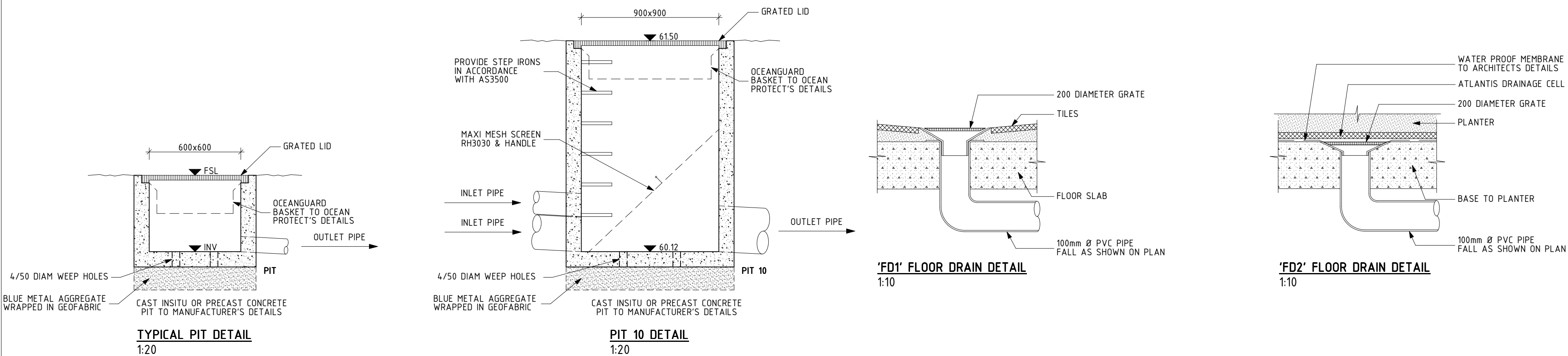
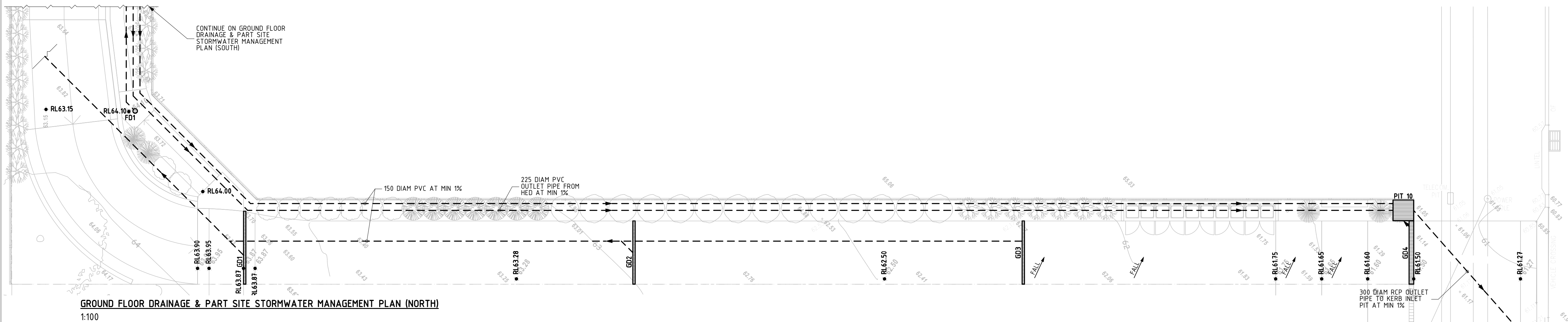
**ON-SITE DETENTION (OSD) CALCULATION SHEET**

DEVELOPMENT TYPE:	SEPP HSPD
DESIGN METHOD USED:	FULL COMPUTATION METHOD
SITE AREA:	2029 m <sup>2</sup>
PRE DEVELOPMENT IMPERVIOUS AREA:	782 m <sup>2</sup>
	0 m <sup>2</sup> (DRAINS)
POST DEVELOPMENT IMPERVIOUS AREA:	1366 m <sup>2</sup>
INCREASE IN IMPERVIOUS AREA:	584 m <sup>2</sup>
IMPERVIOUS AREA DRAINING TO OSD:	1285 m <sup>2</sup>
PERVIOUS AREA DRAINING TO OSD:	476 m <sup>2</sup>
IMPERVIOUS AREA BYPASSING OSD:	81 m <sup>2</sup>
PERVIOUS AREA BYPASSING OSD:	187 m <sup>2</sup>
PRE DEVELOPMENT SITE DISCHARGE (5-YEAR):	36 l/s
POST DEVELOPMENT SITE DISCHARGE (5-YEAR):	36 l/s
PRE DEVELOPMENT SITE DISCHARGE (100-YEAR):	85 l/s
POST DEVELOPMENT SITE DISCHARGE (100-YEAR):	42 l/s
SITE STORAGE REQUIREMENT (SSR):	63 m <sup>3</sup>
TYPE OF CONTROL:	BELOW GROUND CONCRETE TANK ON BASEMENT
DIMENSIONS OF OSD:	20.84m <sup>2</sup> x 2.98m • 7.19m x 2.21m • 0.9m x 0.9m x 2.21m
OSD VOLUME PROVIDED:	63.1 m <sup>3</sup>
ORIFICE SIZE:	94 mm Ø

MARK	SIZE/TYPE	FSL	INV
AH1	600x600 GRATED ACCESS HATCH	64.35	
AH2	600x600 GRATED ACCESS HATCH	64.35	
AH3	900x900 GRATED ACCESS HATCH	64.35	
AH4	600x600 GRATED ACCESS HATCH	64.35	
AH5	600x600 PRESSURE SEALED ACCESS HATCH	64.35	
AH6	600x600 PRESSURE SEALED ACCESS HATCH	64.35	
PIT 1	600x600 PIT WITH GRATED LID WITH OCEANGUARD BASKET - REFER DETAIL	64.30	63.86
PIT 2	600x600 PIT WITH GRATED LID WITH OCEANGUARD BASKET - REFER DETAIL	63.75	63.45
PIT 3	600x600 PIT WITH GRATED LID WITH OCEANGUARD BASKET - REFER DETAIL	62.61	62.11
PIT 4	600x600 PIT WITH GRATED LID WITH OCEANGUARD BASKET - REFER DETAIL	61.75	61.25
PIT 5	600x600 PIT WITH GRATED LID WITH OCEANGUARD BASKET - REFER DETAIL	64.90	64.40
PIT 6	600x600 PIT WITH GRATED LID WITH OCEANGUARD BASKET - REFER DETAIL	64.28	63.78
PIT 7	600x600 PIT WITH GRATED LID WITH OCEANGUARD BASKET - REFER DETAIL	64.40	63.90
PIT 8	600x600 PIT WITH GRATED LID WITH OCEANGUARD BASKET - REFER DETAIL	64.25	63.75
PIT 9	600x600 PIT WITH GRATED LID WITH OCEANGUARD BASKET - REFER DETAIL	63.81	63.31
PIT 10	900x900 PIT WITH GRATED LID WITH OCEANGUARD BASKET - REFER DETAIL	61.50	60.12
GD1	100 WIDE x 100 DEEP GRATED DRAIN	63.87	63.77
GD2	100 WIDE x 100 DEEP GRATED DRAIN	63.03	62.93
GD3	100 WIDE x 100 DEEP GRATED DRAIN	62.23	62.13
GD4	200 WIDE x 100 DEEP GRATED DRAIN	61.50	61.40
FD1	200 DIAMETER FLOOR DRAIN	-	-
FD2	200 DIAMETER FLOOR DRAIN (PLANTER)	-	-
DP	100 DIAMETER PVC DOWNPIPE	-	-
DP1	100 DIAMETER PVC DOWNPIPE TO COLLECT WATER FROM BALCONY & TERRACE ONLY	-	-
DP2	100 DIAMETER SEWER GRADE PVC PRESSURE SEALED CHARGED DOWNPIPE	-	-
RWT	25400 LITRE BELOW GROUND RAINWATER RE-USE TANK (18250Lx600Wx3200D + (8250Lx1700Wx600D)) TANK TO COLLECT RAINWATER RUNOFF FROM ALL ROOF AREAS AS SHOWN & BE CONNECTED FOR TOILET FLUSHING, LAUNDRIES & GARDEN IRRIGATION. TANK TO BE FITTED WITH FIRST FLUSH DEVICE & WATER FILTRATION DEVICES & INSTALLED IN ACCORDANCE WITH AS3500, BASIX & SYDNEY WATER REQUIREMENTS. ALL CONNECTIONS INTO & OUT OF RWT TO BE FULLY SEALED.	-	-
OSD	MIN 45430 LITRE BELOW GROUND ON-SITE DETENTION TANK (20.84m <sup>2</sup> x2.180D) (AVERAGE)	-	-
HED	MIN 1790 LITRE HIGH EARLY DISCHARGE CHAMBER (900Lx900Wx2210D)	-	-
SF	MIN 15880 LITRE STORMFILTER CHAMBER (MIN 7.19m <sup>2</sup> x2210D) TO OCEAN PROTECT'S SPECIFICATIONS	-	-

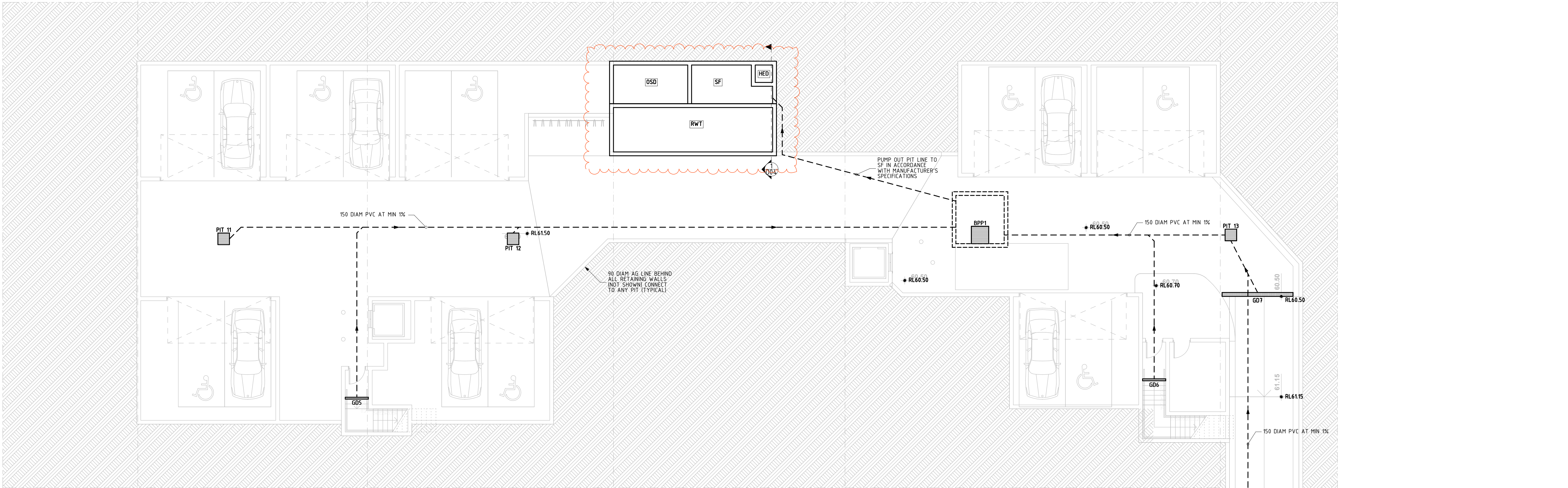
**NOTE:**

- MOSQUITO PROOF MESH TO BE PROVIDED AT ALL END POINTS TO CHARGED LINES
- ALL PIPES UNDER SUSPENDED FLOOR TO BE STRAPPED TO UNDERSIDE OF FLOOR STRUCTURE AT MIN 1%

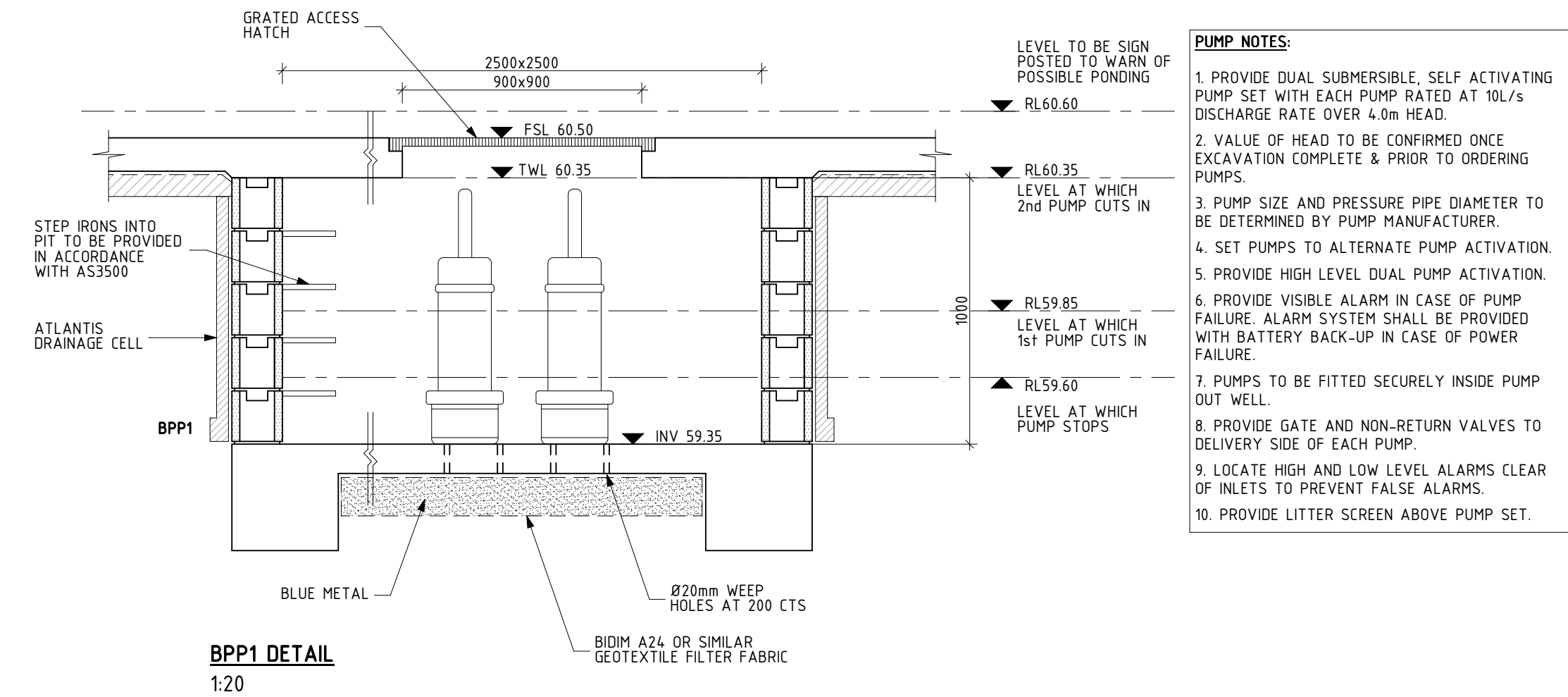


<p><b>ISTRUCT</b> CONSULTING ENGINEERS</p> <p>Istruct Pty Limited T/A Istruct Consulting Engineers ABN 36 135 142 746 Suite 17, Level 2, 174 Willoughby Rd P.O. Box 39 CROWS NEST NSW 1585 p: 02 9437 3331 f: 02 9437 3332 e: info@istruct.com.au www.istruct.com.au</p>	C	08.07.21	AMENDED AS PER COUNCIL'S REQUEST	DI								ARCHITECT		STATUS	ISSUE FOR DA SUBMISSION ONLY	DATE	DEC 2020
	B	25.06.21	AMENDED AS PER COUNCIL'S REQUEST	DI								GARTNER TROVATO ARCHITECTS		PROJECT	45 LANTANA AVENUE, WHEELER HEIGHTS	PROJECT NUMBER	201110
	2	23.06.21	ISSUE FOR REVIEW ONLY	DI										DRAWN		PAGE SIZE	A1
	A	11.12.20	ISSUE FOR DA SUBMISSION ONLY	DI										DRAWING	GROUND FLOOR DRAINAGE & SITE STORMWATER MANAGEMENT PLAN	DRAWING NUMBER	D01
	1	08.12.20	ISSUE FOR REVIEW ONLY	DI								ROB MASON		CHECKED	DI	REVISION	C
REV.	DATE	REVISION DESCRIPTION				BY	REV.	DATE	REVISION DESCRIPTION				BY				





**BASEMENT DRAINAGE PLAN**  
1:100



- PUMP NOTES:**
1. PROVIDE DUAL SUBMERSIBLE, SELF ACTIVATING PUMP SET WITH EACH PUMP RATED AT 10L/s DISCHARGE RATE OVER 4.0m HEAD.
  2. VALUE OF HEAD TO BE CONFIRMED ONCE EXCAVATION COMPLETE & PRIOR TO ORDERING PUMPS.
  3. PUMP SIZE AND PRESSURE PIPE DIAMETER TO BE DETERMINED BY PUMP MANUFACTURER.
  4. SET PUMPS TO ALTERNATE PUMP ACTIVATION.
  5. PROVIDE HIGH LEVEL DUAL PUMP ACTIVATION.
  6. PROVIDE VISIBLE ALARM IN CASE OF PUMP FAILURE. ALARM SYSTEM SHALL BE PROVIDED WITH BATTERY BACK-UP IN CASE OF POWER FAILURE.
  7. PUMPS TO BE FITTED SECURELY INSIDE PUMP OUT WELL.
  8. PROVIDE GATE AND NON-RETURN VALVES TO DELIVERY SIDE OF EACH PUMP.
  9. LOCATE HIGH AND LOW LEVEL ALARMS CLEAR OF INLETS TO PREVENT FALSE ALARMS.
  10. PROVIDE LITTER SCREEN ABOVE PUMP SET.

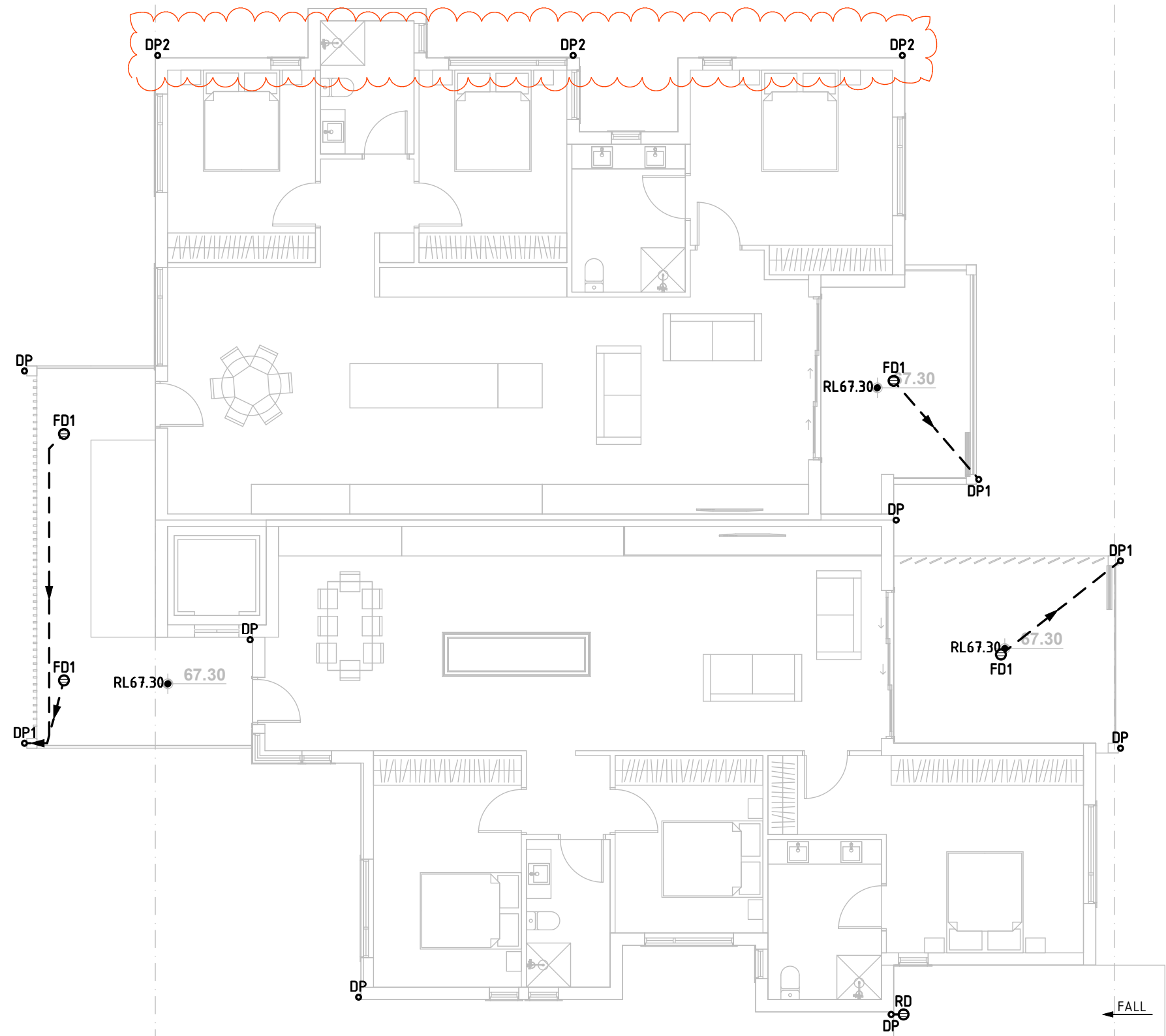
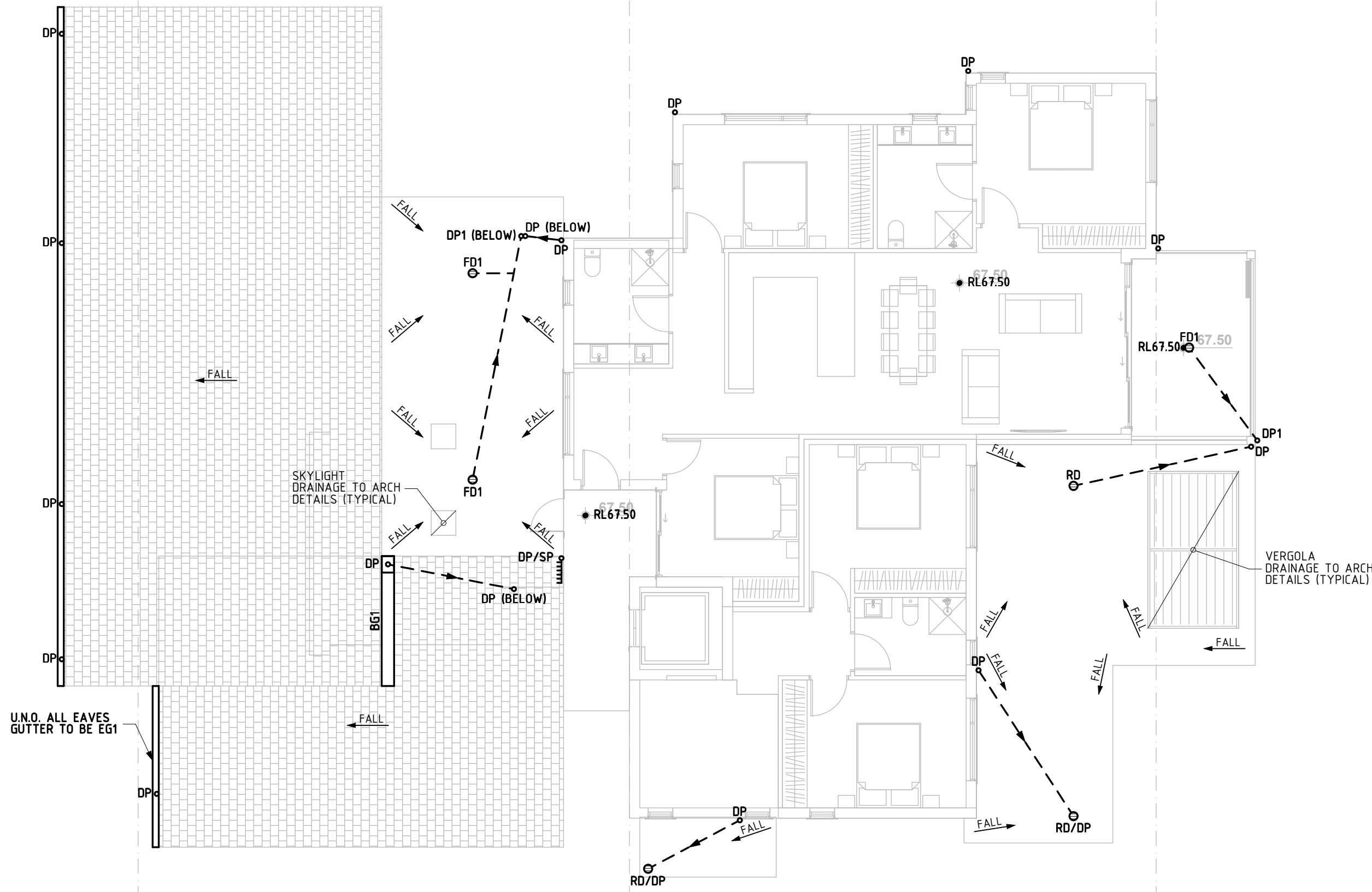
MARK	SIZE/TYPE	FSL	INV
PIT 11	600x600 PIT WITH GRATED LID	61.50	61.00
PIT 12	600x600 PIT WITH GRATED LID	61.50	61.00
PIT 13	600x600 PIT WITH GRATED LID WITH OCEANGUARD BASKET - REFER DETAIL	60.50	60.00
BPP1	MIN 7m³ BASEMENT PUMP OUT PIT - REFER DETAIL	60.50	59.35
GD5	100 WIDE x 100 DEEP GRATED DRAIN	61.50	61.40
GD6	100 WIDE x 100 DEEP GRATED DRAIN	60.70	60.60
GD7	200 WIDE x 100 DEEP GRATED DRAIN	60.50	60.40
GD8	200 WIDE x 100 DEEP GRATED DRAIN	COS	COS
RWT, OSD, HED, SF	ON-SITE DETENTION & RAINWATER RE-USE TANK REFER TO SCHEDULE ON D01	-	-

REV.	DATE	REVISION DESCRIPTION	BY	REV.	DATE	REVISION DESCRIPTION	BY
C	08.07.21	AMENDED AS PER COUNCIL'S REQUEST	DI				
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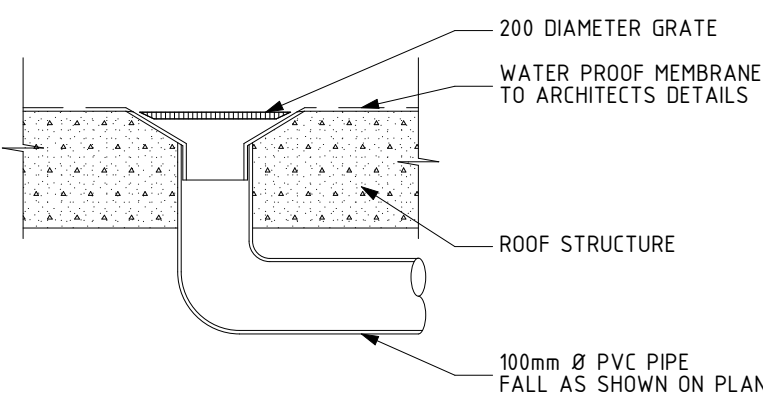
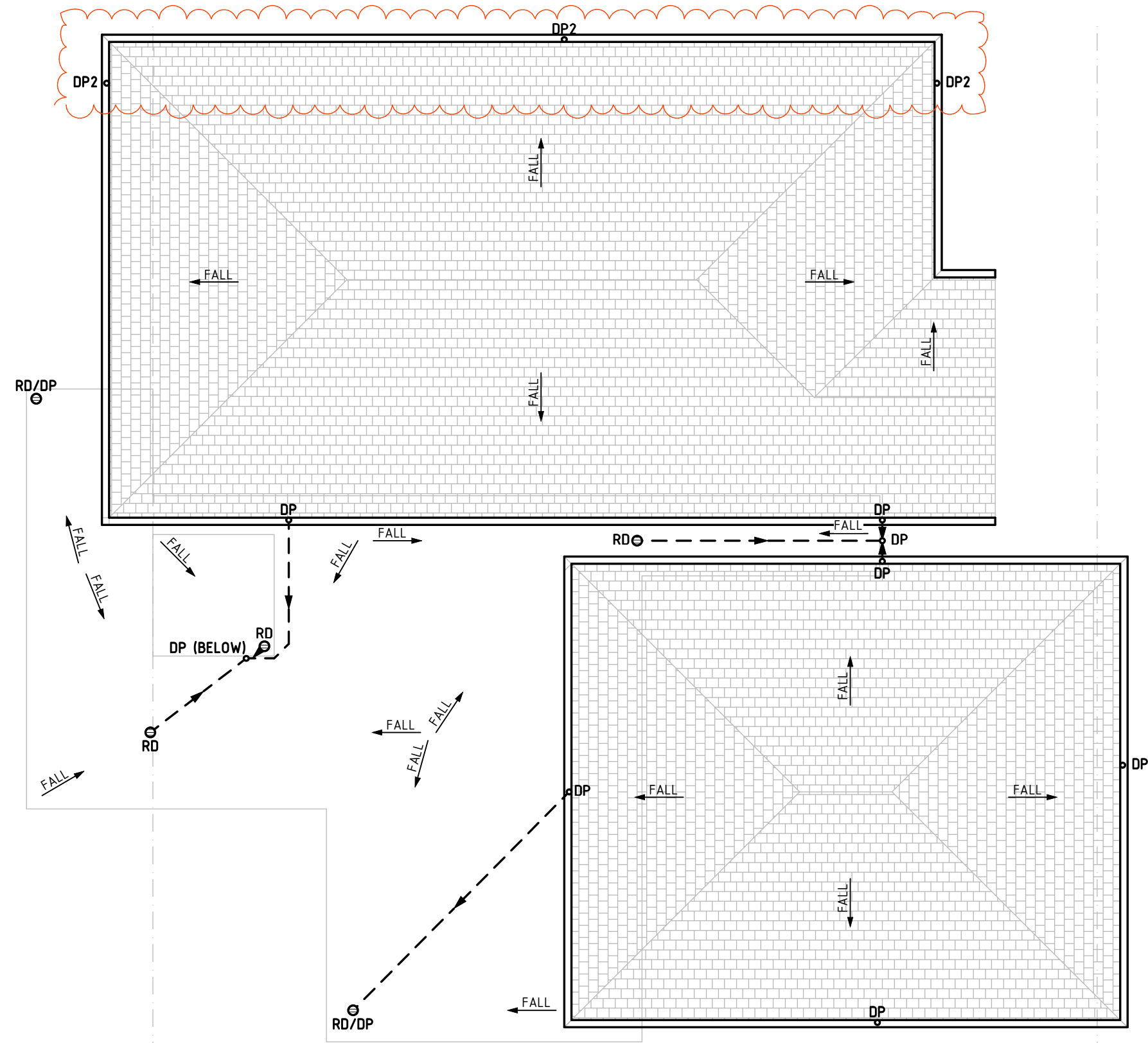
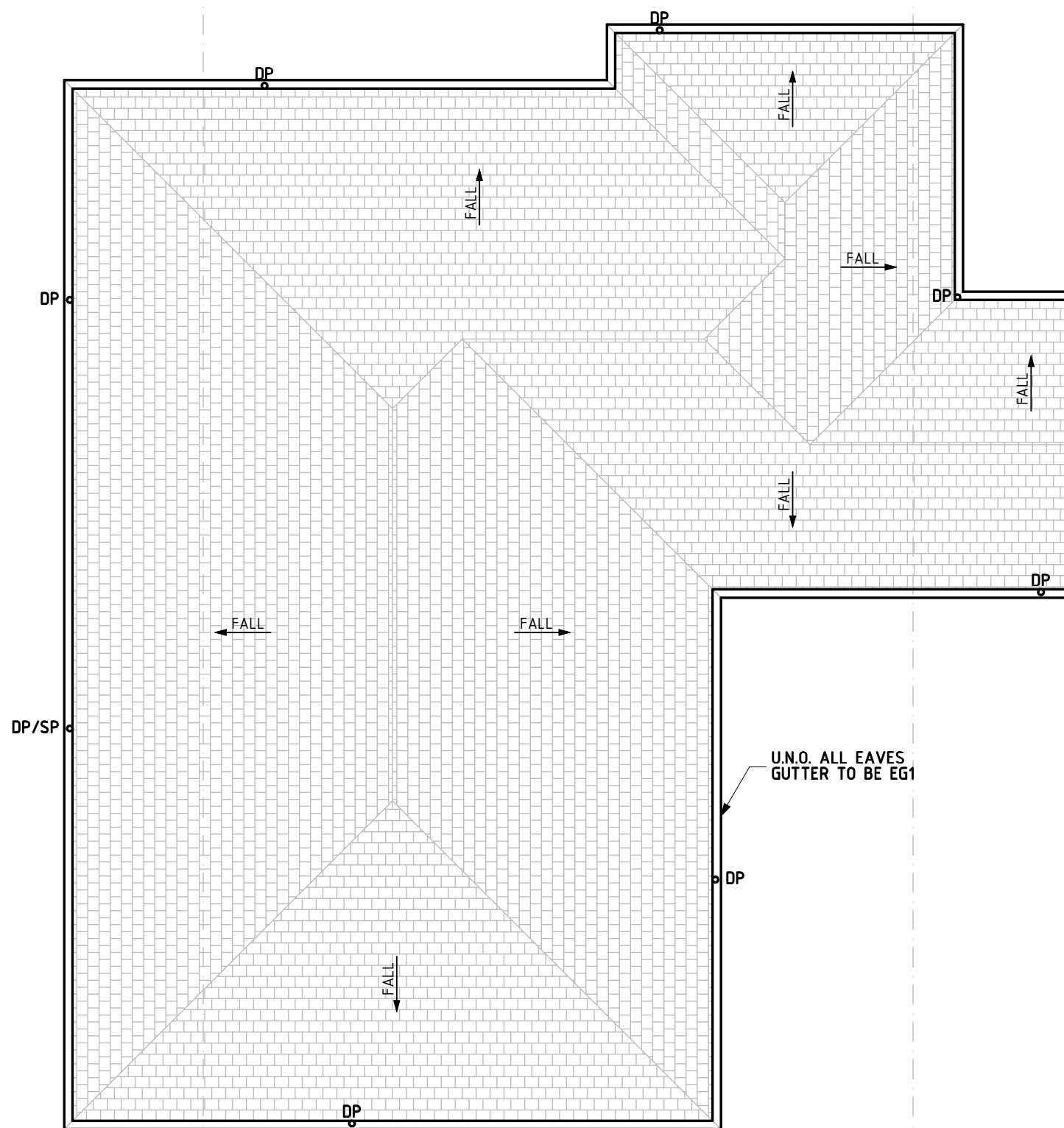
ARCHITECT	GARTNER TROVATO ARCHITECTS
CLIENT	ROB MASON

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PROJECT	45 LANTANA AVENUE, WHEELER HEIGHTS	DESIGNED	DM
DRAWING	BASEMENT DRAINAGE PLAN	SCALE	REFER DWG
		PAGE SIZE	A1
		CHECKED	DI
		REVISION	C
PROJECT NUMBER	201110	DRAWING NUMBER	D02





FIRST FLOOR DRAINAGE PLAN  
1:100



'RD' ROOF DRAIN DETAIL  
1:10

MARK	SIZE/TYPE	FSL	INV
FD1	200 DIAMETER FLOOR DRAIN	-	-
DP	100 DIAMETER PVC DOWNPIPE	-	-
DP1	100 DIAMETER PVC DOWNPIPE TO COLLECT WATER FROM BALCONY & TERRACE ONLY	-	-
DP2	100 DIAMETER SEWER GRADE PVC PRESSURE SEALED CHARGED DOWNPIPE SPREADER ONTO LOWER ROOF	-	-
EG1	QUAD 150 EAVES GUTTER	-	-
BG1	300 WIDE x MIN 125 DEEP BOX GUTTER WITH 400 LONG x 300 WIDE x 70 DEEP SUMP AT DOWNPIPE & 240 WIDE x 70 DEEP OVERFLOW SLOT THROUGH END OF BOX GUTTER	-	-
RD	200 DIAMETER ROOF DRAIN	-	-

NOTE:  
- PROVIDE GUTTER GUARD TO ALL GUTTERS  
- MOSQUITO PROOF MESH TO BE PROVIDED AT ALL END POINTS TO CHARGED LINES  
- ALL PIPES UNDER SUSPENDED FLOOR TO BE STRAPPED TO UNDERSIDE OF FLOOR STRUCTURE AT MIN 1%

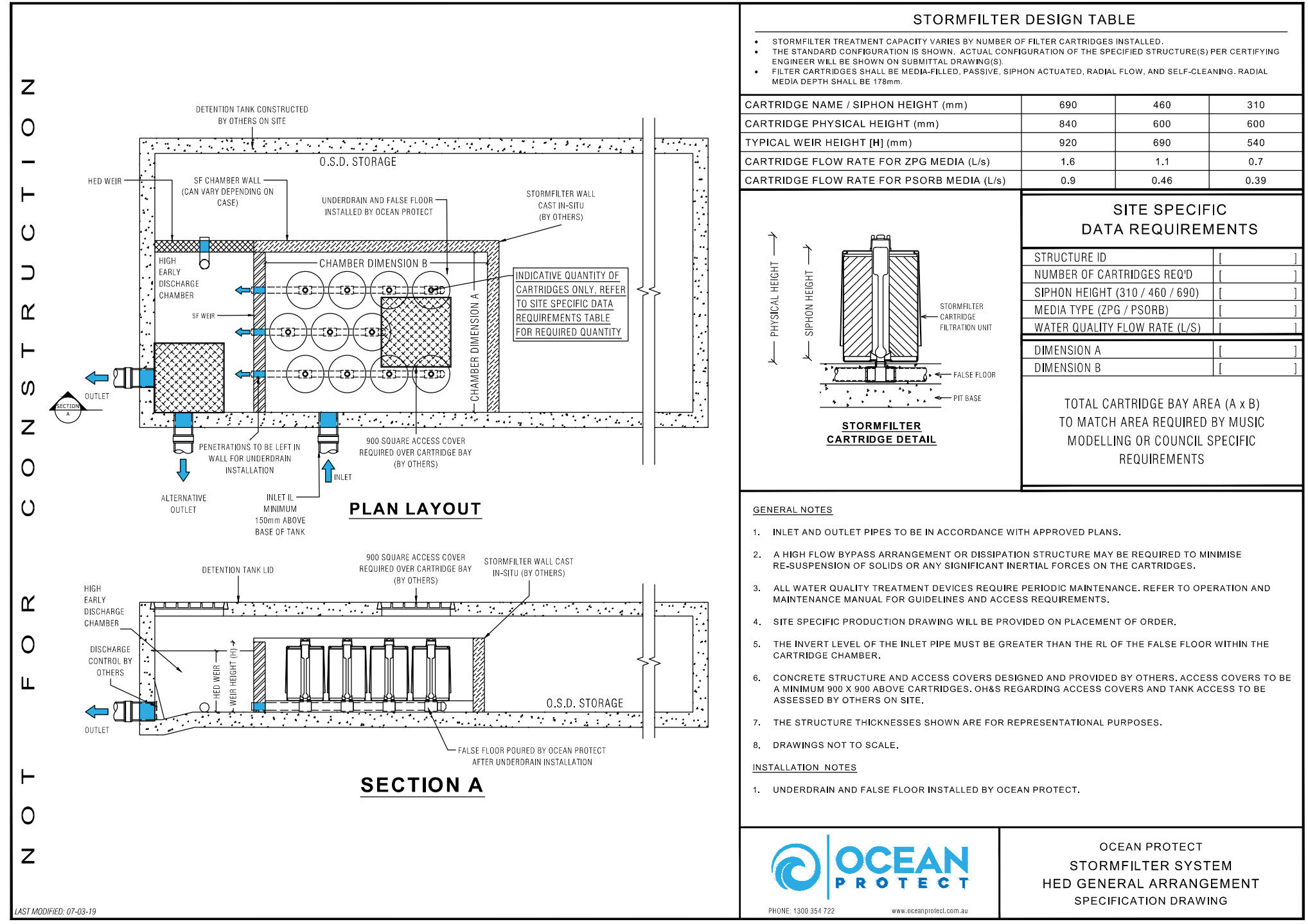
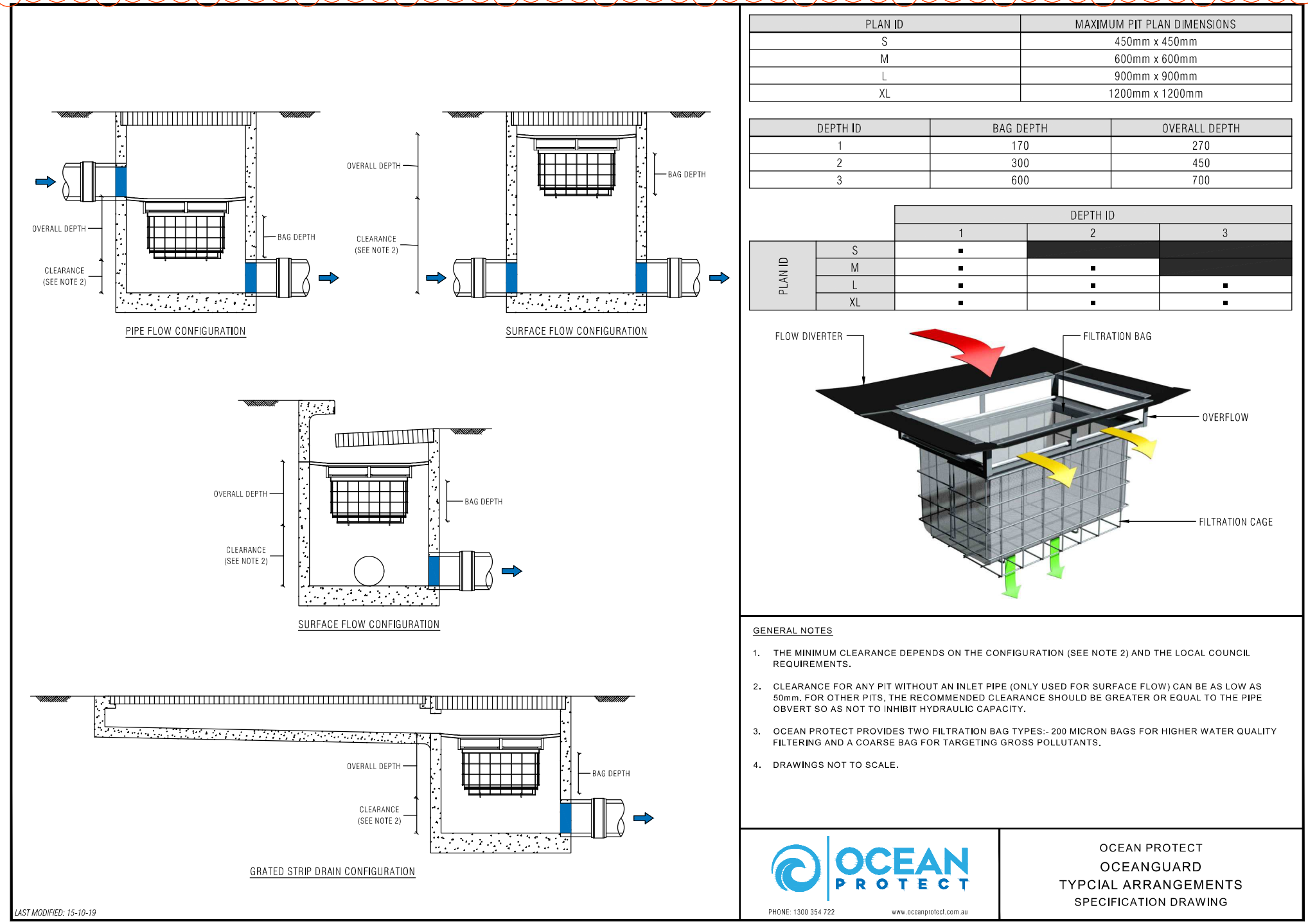
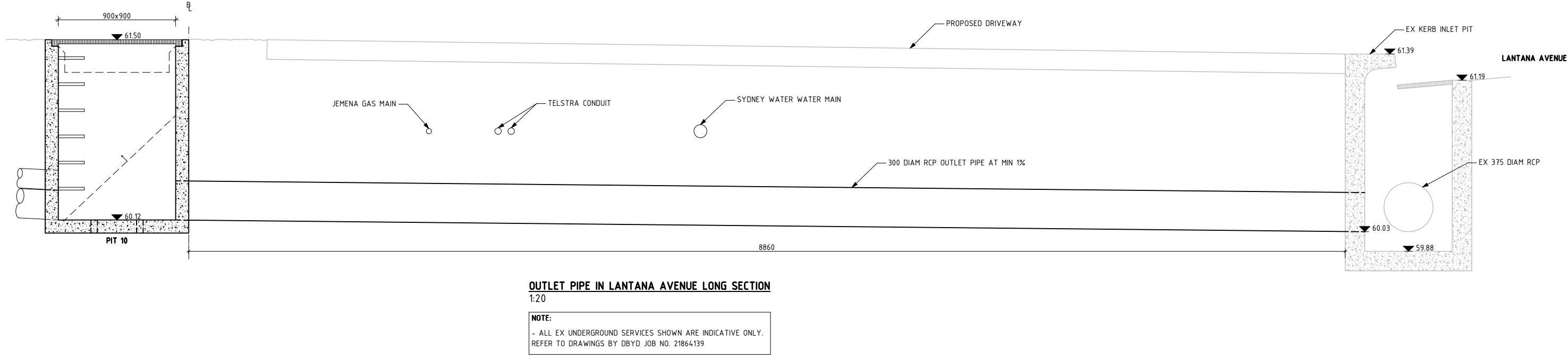
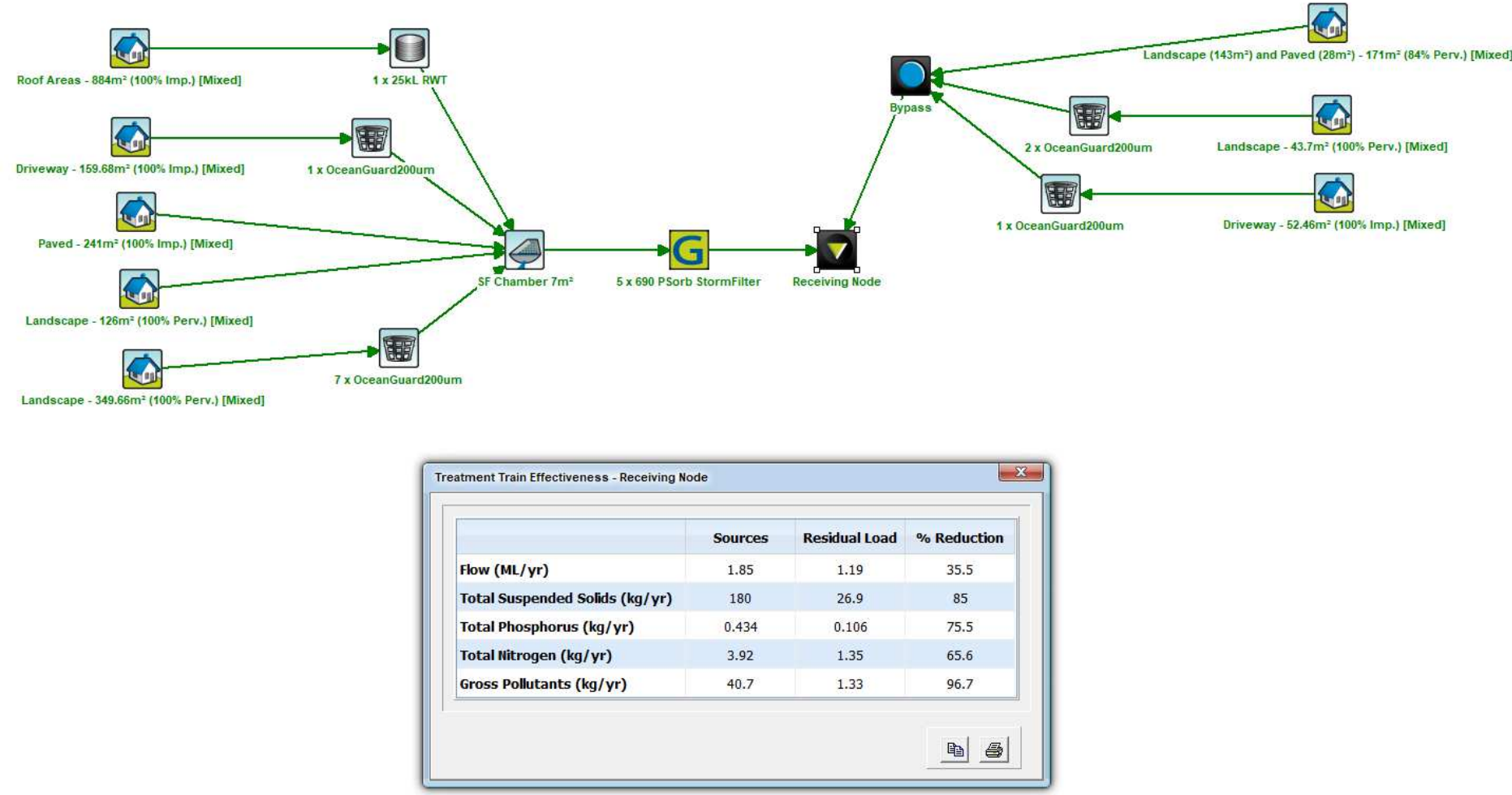
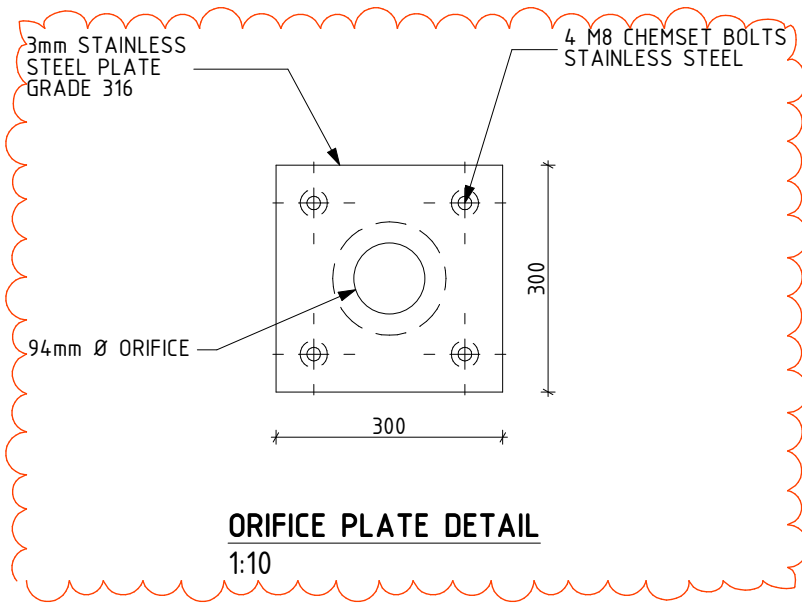
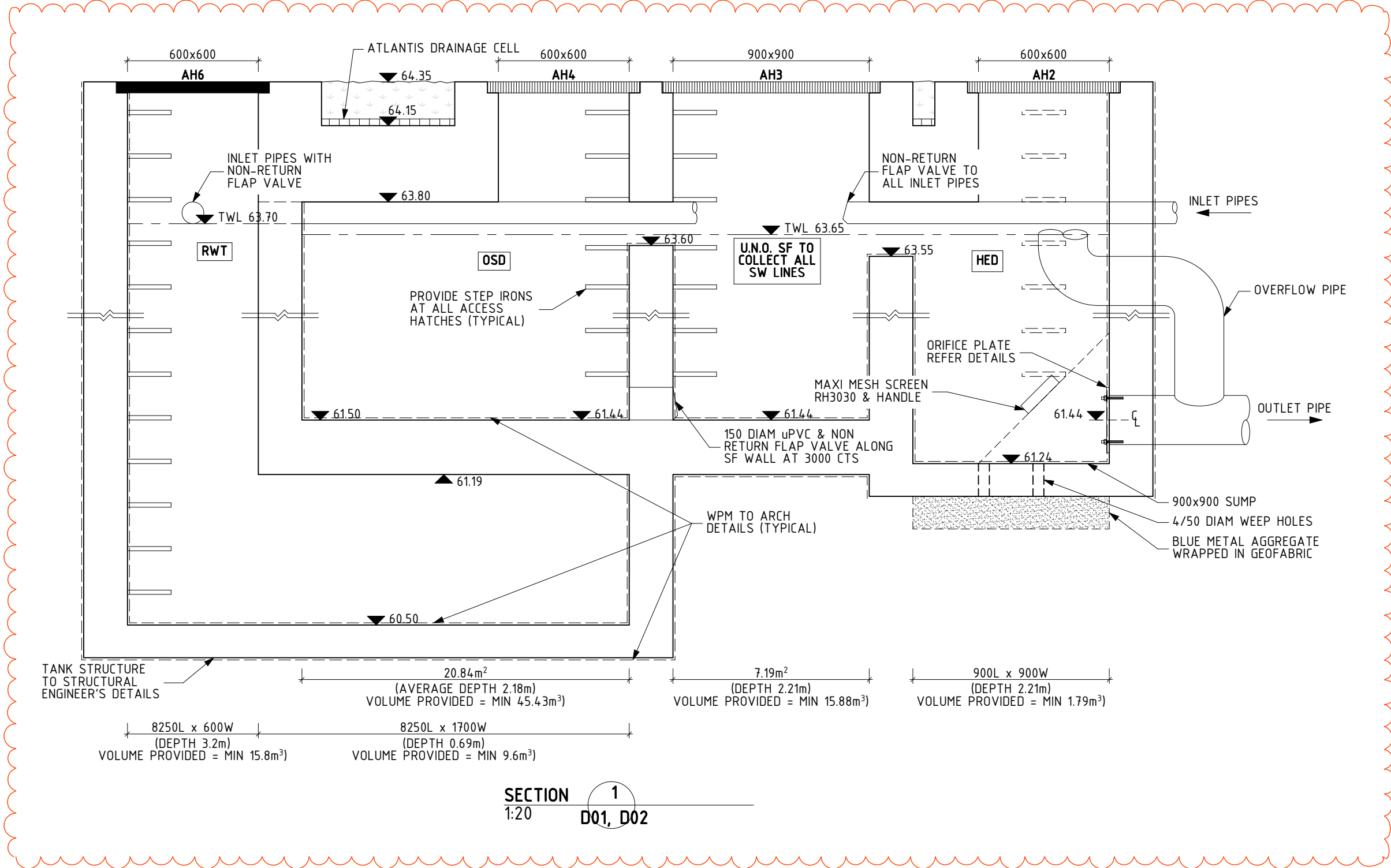
ROOF DRAINAGE PLAN  
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C	08.07.21	AMENDED AS PER COUNCIL'S REQUEST	DI			
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2	23.06.21	ISSUE FOR REVIEW ONLY	DI			
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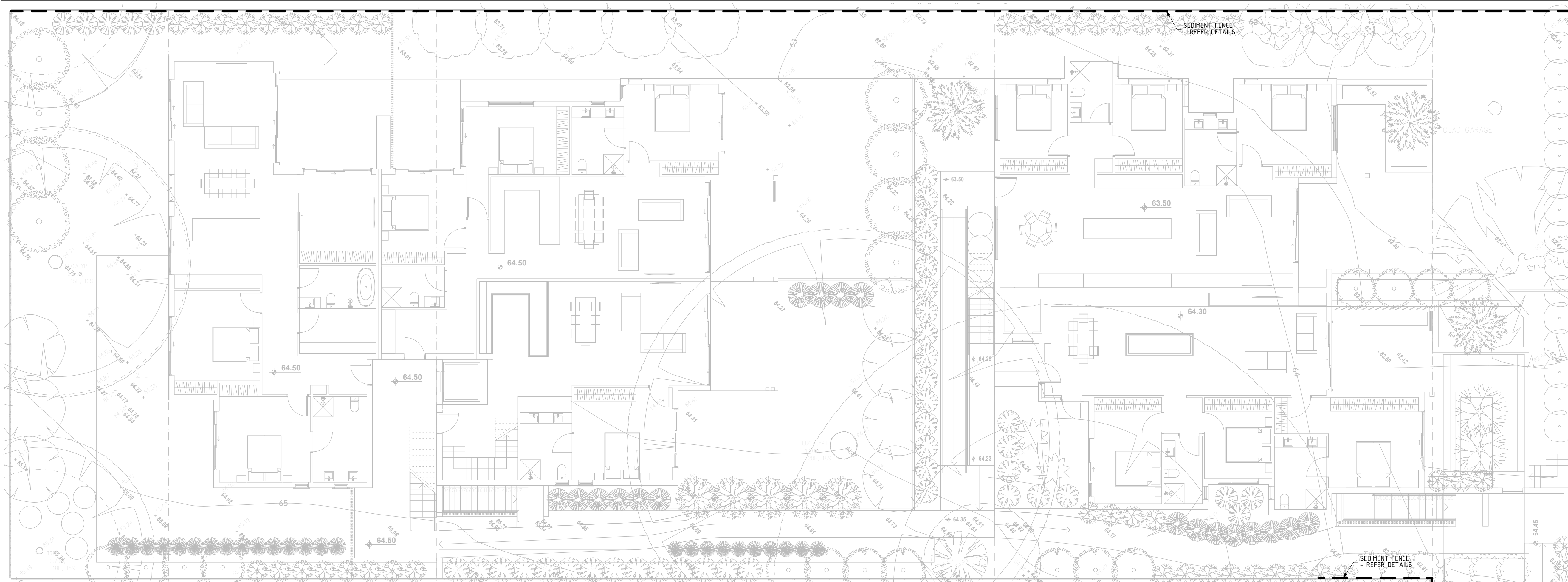
ARCHITECT	GARTNER TROVATO ARCHITECTS
CLIENT	ROB MASON

STATUS	ISSUE FOR DA SUBMISSION ONLY	DATE	DEC 2020
PROJECT	45 LANTANA AVENUE, WHEELER HEIGHTS	DESIGNED	DM
DRAWING	FIRST FLOOR & ROOF DRAINAGE PLANS	SCALE	REFER DWG
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		CHECKED	DI
		REVISION	C
PROJECT NUMBER	201110	DRAWING NUMBER	D03

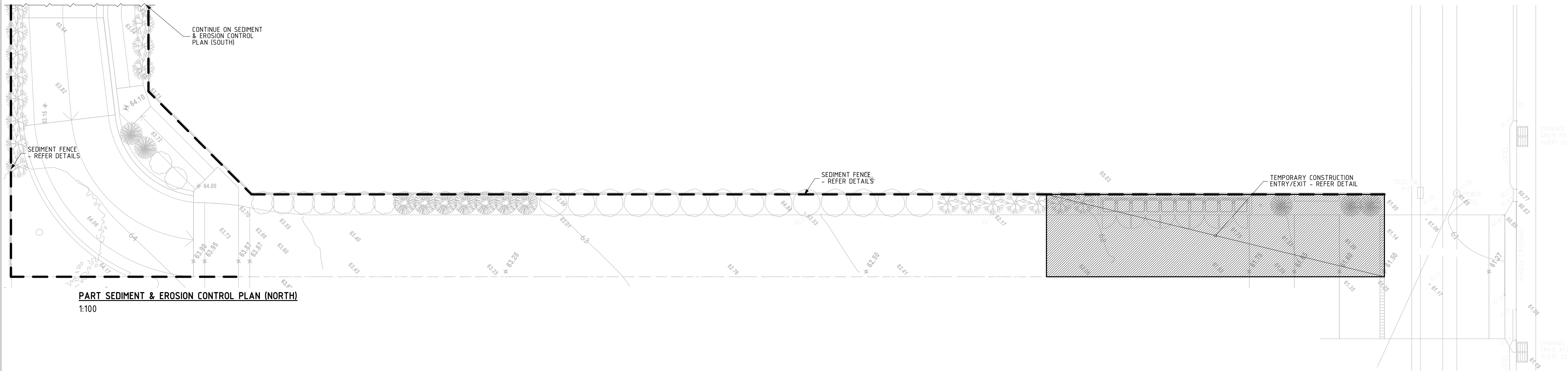




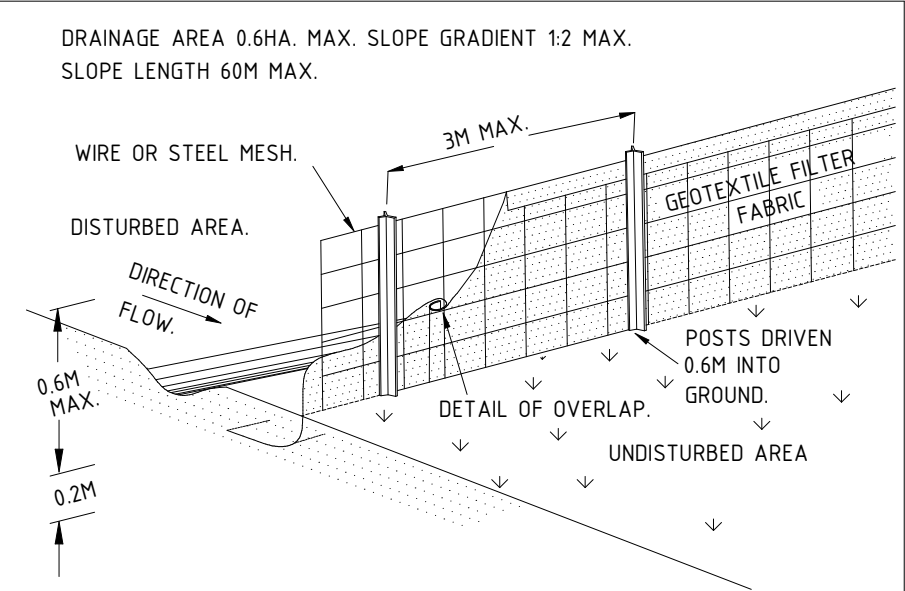




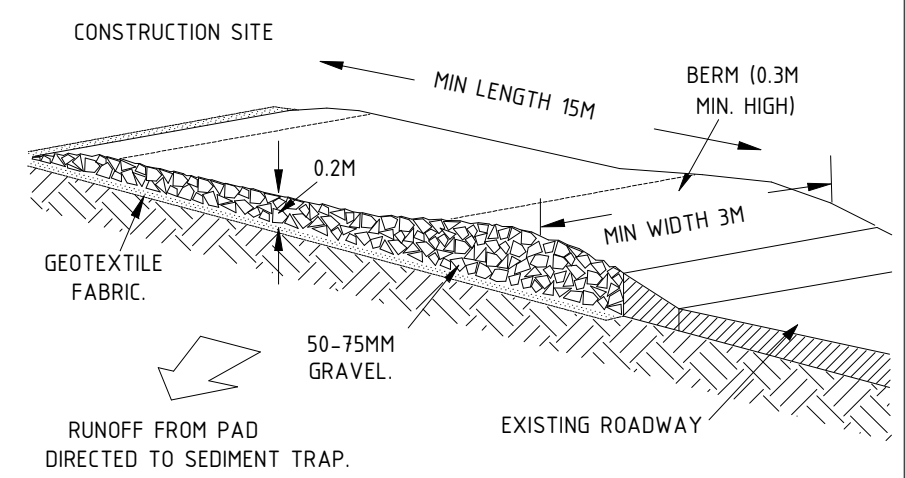
PART SEDIMENT & EROSION CONTROL PLAN (SOUTH)  
1:100



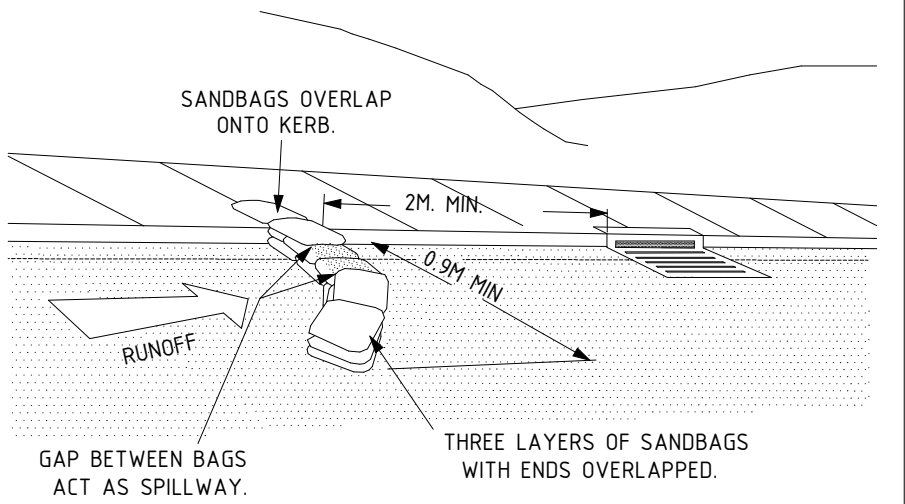
PART SEDIMENT & EROSION CONTROL PLAN (NORTH)  
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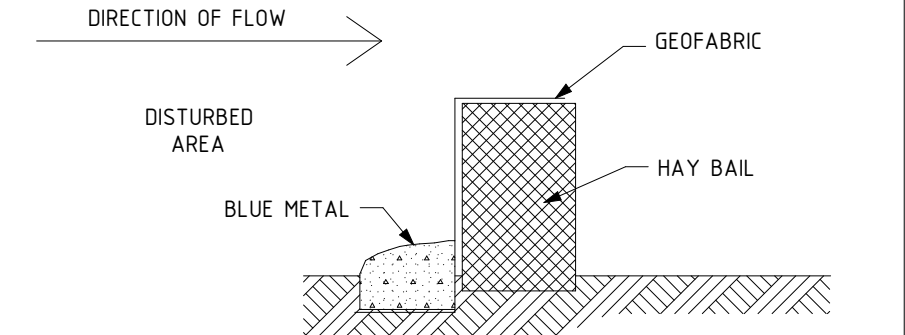
- SEDIMENT FENCE**
- CONSTRUCTION NOTES:**
1. CONSTRUCT SEDIMENT FENCE AS CLOSE AS POSSIBLE TO PARALLEL TO THE CONTOURS OF THE SITE.
  2. DRIVE 15 METRE LONG STAR PICKETS INTO GROUND, 3 METRES APART.
  3. DIG A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
  4. BACKFILL TRENCH OVER BASE OF FABRIC.
  5. FIX SELF-SUPPORTING GEOTEXTILE TO UPSLOPE SIDE OF POSTS WITH WIRE TIES or AS RECOMMENDED BY GEOTEXTILE MANUFACTURER.
  6. JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150mm OVERLAP.



- TYPICAL TEMPORARY CONSTRUCTION ENTRY/EXIT DETAIL**
- CONSTRUCTION NOTES:**
1. STRIP TOPSOIL AND LEVEL SITE.
  2. COMPACT SUBGRADE.
  3. COVER AREA WITH NEEDLE-PUNCHED GEOTEXTILE.
  4. CONSTRUCT 200mm THICK PAD OVER GEOTEXTILE USING ROADBASE or 30mm AGGREGATE. MINIMUM LENGTH 15 METRES OR TO BUILDING ALIGNMENT. MINIMUM WIDTH 3 METRES.
  5. CONSTRUCT HUMP IMMEDIATELY WITHIN BOUNDARY TO DIVERT WATER TO A SEDIMENT FENCE or OTHER SEDIMENT TRAP.



SANDBAG KERB INLET SEDIMENT TRAP



REMOVABLE HAY BALE DETAIL  
N.T.S.

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A	25.06.21	ISSUE FOR DA SUBMISSION ONLY	DI				

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CLIENT	ROB MASON

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