

PROPOSED MIXED DEVELOPMENT
AT No. 141 WALDRON ROAD, CHESTER HILL

INDEX OF DRAINAGE DRAWING SET

[illegible]

B	13 APR. 17	W.L.	S.W.W.	AMENDED REVISION
A	30 MAR. 17	W.L.	S.W.W.	PRELIMINARY ISSUE
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JOB NAME

PROPOSED MIXED DEVELOPMENT
AT 141 WALDRON ROAD,
CHESTER HILL

CLIENT, ARCHITECT

CMT ARCHITECT

DRAWING TITLE

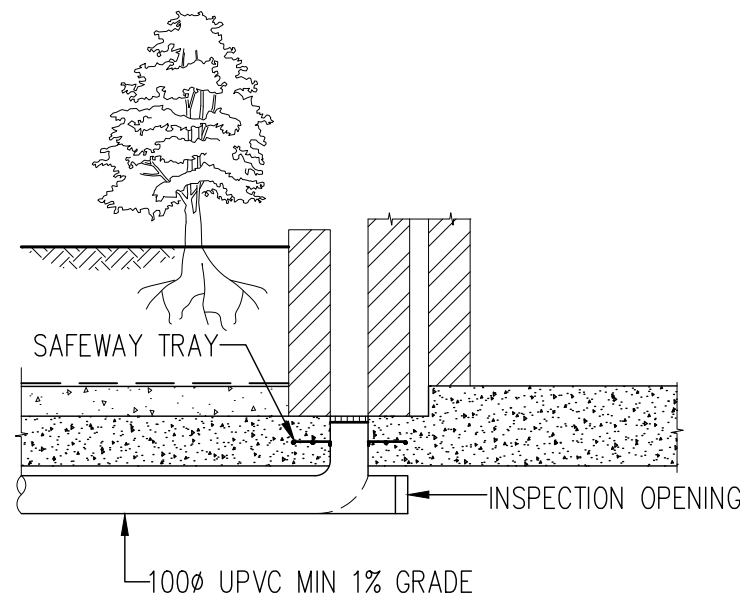
INDEX OF DRAINAGE DRAWING SET

NO. IN SET	JOB NO	1023.15	DRG. NO	REV
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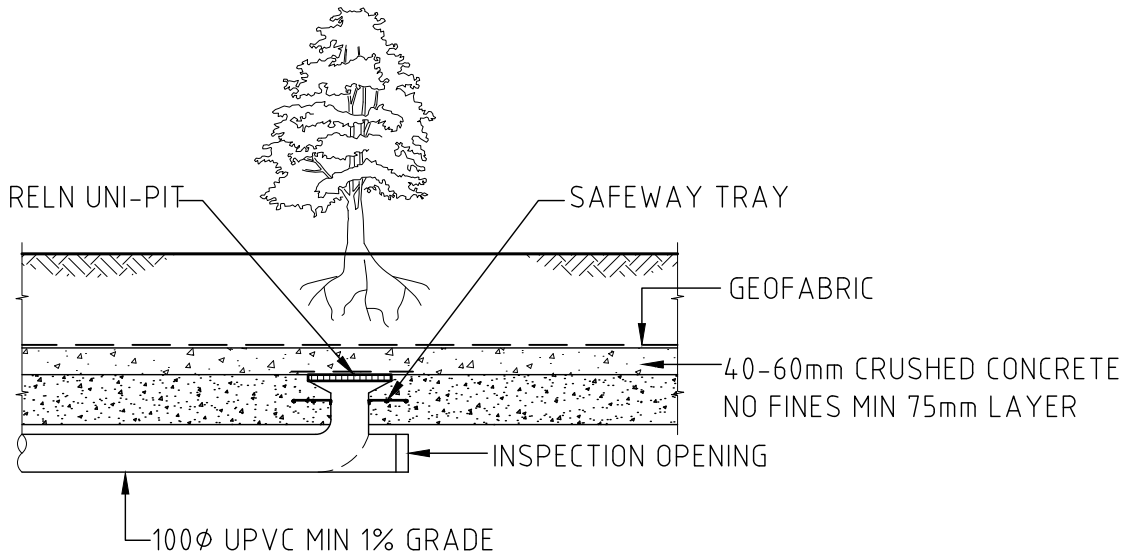
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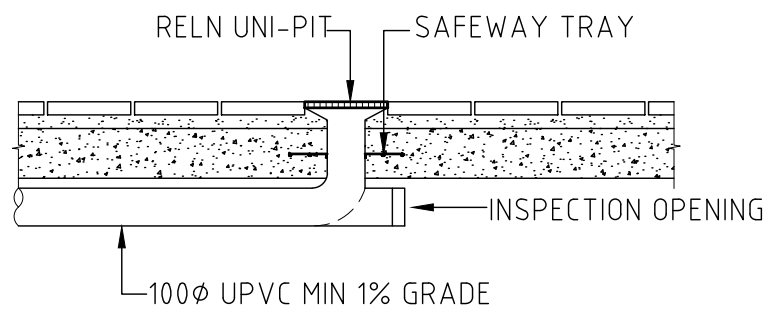
STEVEN WATERS
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 M.I.E. AUST., C.P. ENG. NPFR-3
 REG. NO. 417092
 CIVIL AND STRUCTURAL



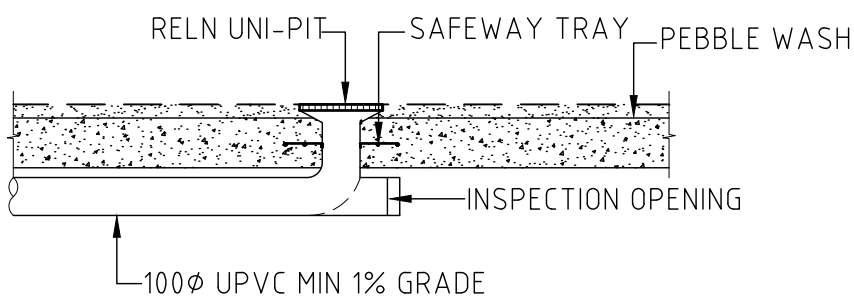
TYPICAL PLANTER CAVITY DRAIN (C.D.)



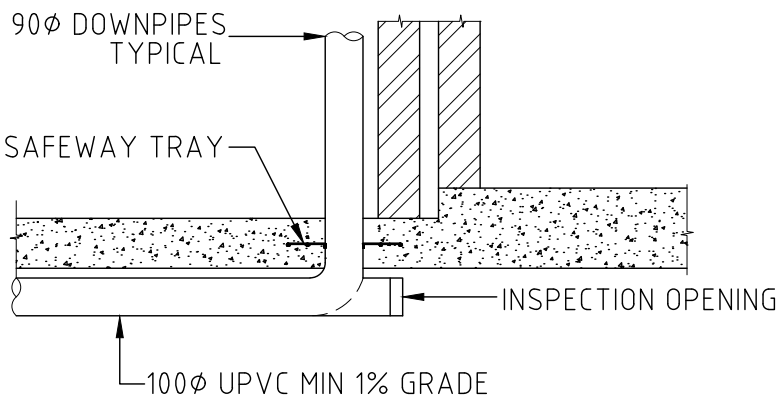
FLOOR WASTE-PLANTERS
TYPICAL DETAIL



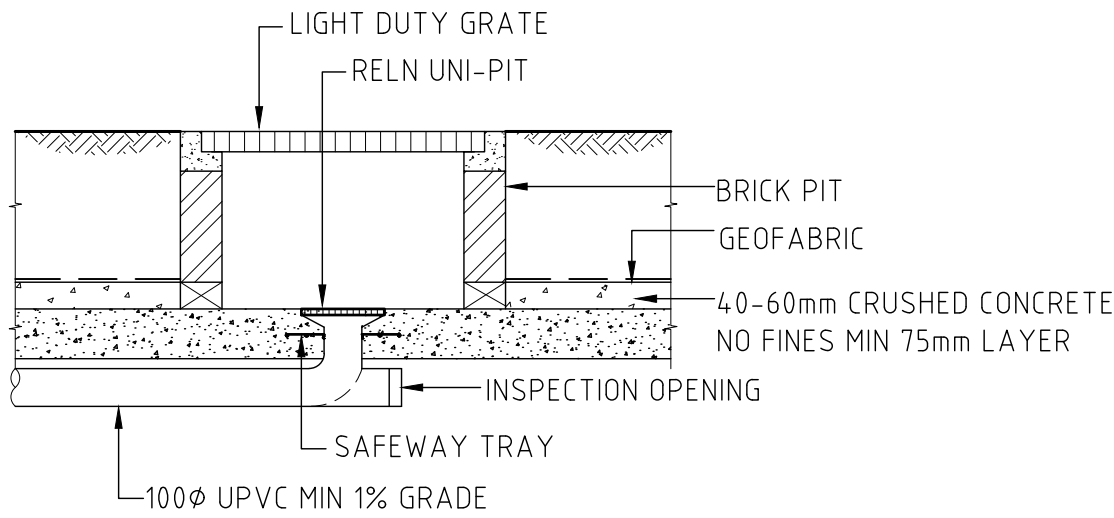
FLOOR WASTE-PODIUM SLAB
TILE FINISH



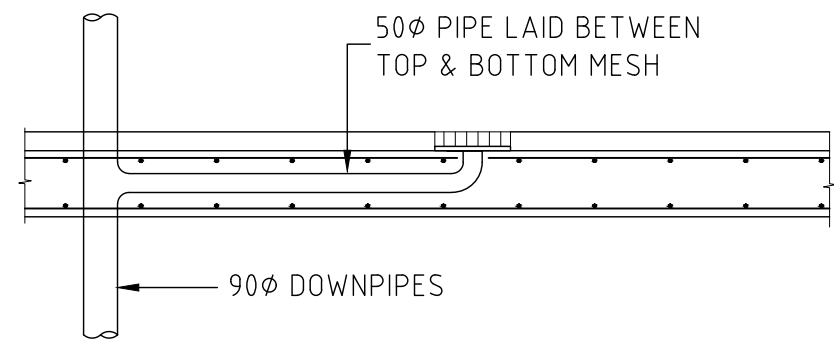
FLOOR WASTE-PODIUM SLAB
PEBBLE WASH FINISH



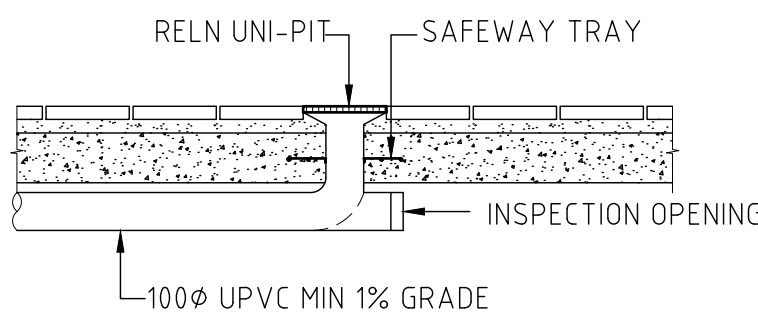
TYPICAL DOWNPIPE-PODIUM



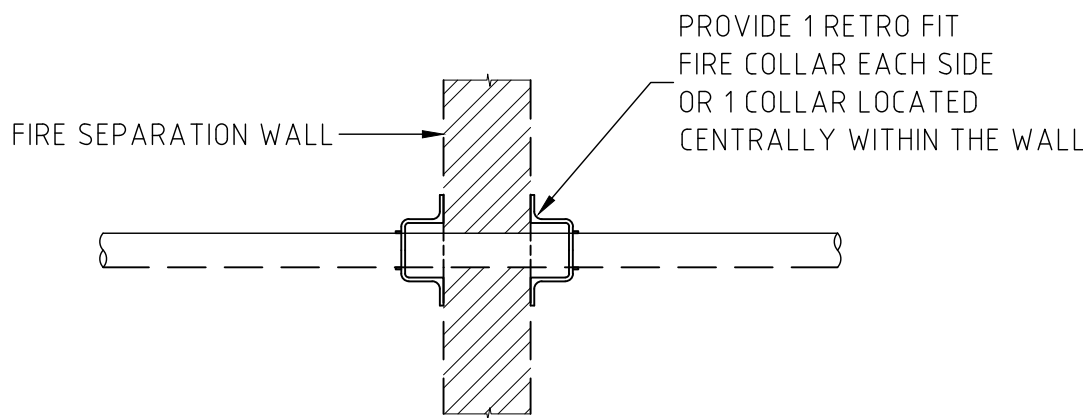
TYPICAL PIT- PLANTERS



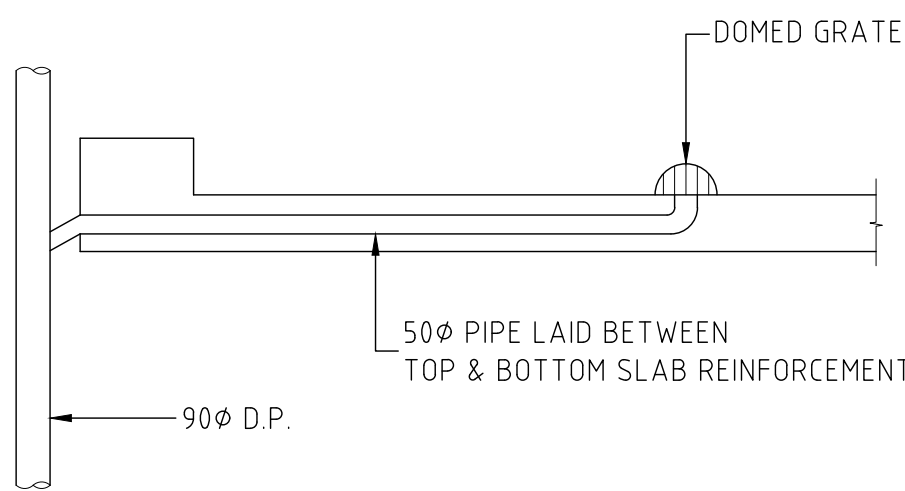
TYPICAL TUNG DISH (T.D.) L1 & L2



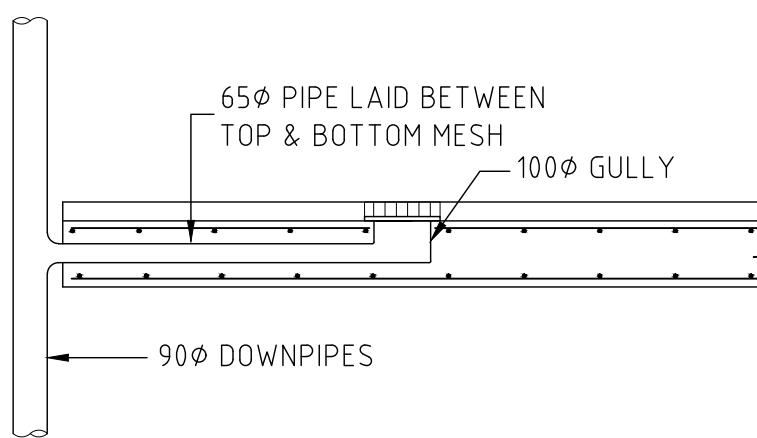
FLOOR WASTE-PODIUM SLAB
TYPICAL DETAIL



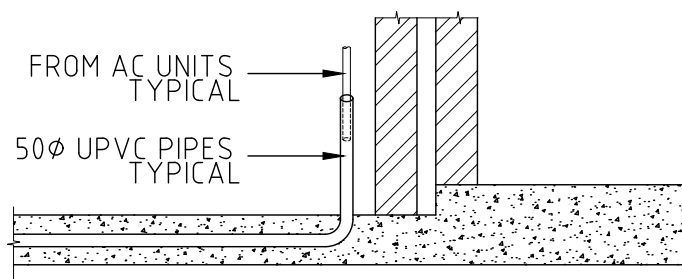
PENETRATION THROUGH FIRE SEPARATION WALL



TYPICAL CONCRETE ROOF OUTLET (R.O.)



TYPICAL BALCONY FLOOR WASTE (F.W.)



TYPICAL TUN DISH TO A.C. UNITS (T.D.)

NOTES

1. PROVIDE INSPECTION OPENINGS TO ALL DOWNPIPES NOT DIRECTLY CONNECTED TO PITS.
2. ALL PIPES TO BE 100mm UPVC SEWER GRADE UNO, LAID ON A MIN 1% GRADE, MINIMUM 300mm COVER UNO.
3. a) PITS 600mm OR LESS TO BE 450X450mm.
b) PITS GREATER THAN 600mm DEEP BUT LESS THAN 1000mm SHALL BE 600X600mm.
4. ALL PIPES TO BE ADVISED.
5. ALL PIT FLOORS TO HAVE A MINIMUM OF 20mm FALL, PROFILED AND STEAMLINE (FOR HALF OF THE DEPTH OF THE PIPE) IN THE DIRECTION OF FLOW.
6. ALL GRATES ON THE DRIVEWAY TO BE HEAVY DUTY.
7. ALL PIPES STRAPPED TO THE SOFFIT OF THE PODIUM SLAB ARE TO BE KEPT AS TIGHT AS POSSIBLE TO THE SOFFIT WITH A MINIMUM 1% FALL.
8. ALL GUTTERS, PITS, PIPES AND DOWNPIPES TO BE INSTALLED IN ACCORDANCE WITH AS3500.3.2.1 1998.
9. ALL DOWNPIPES TO BE 90mm PVC AND GUTTERS COLORBOND QUAD.
10. AL PITS TO BE PRECAST REINFORCED CONCRETE UNO.

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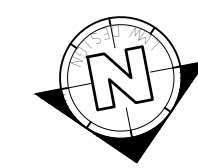
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JOB NAME PROPOSED MIXED DEVELOPMENT AT 141 WALDRON ROAD, CHESTER HILL				
CLIENT, ARCHITECT CMT ARCHITECT				
DRAWING TITLE DRAINAGE DETAILS				

No. IN SET	JOB No	1023.15	DRG. No	REV
			D2	A
SCALE	DESIGNED	DRAWN	DATE	No.
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CIVIL AND STRUCTURAL

STORMWATER PUPOUT SYSTEM

DESIGN REQUIREMENTS

ADDRESS: 141 Waldron Road, Chester Hill
Location: LATITUDE: -33.8831429 S
LONGITUDE: 150.999036 E

1. ARI I_{50} = 42.8 mm (2 Hour 50 YEAR ARI)
 I_{100} = 214 mm (6 Min. 100 YEAR ARI)
2. AREA DRAINING TO BASEMENT SUMP(A) 104.22 m²

3. STORAGE REQUIREMENTS
MINIMUM BLOCKOUT STORAGE: 1 HOURS, 50 YEARS ARI STORM
- | | | |
|---|---|--------------|
| Q | = | FxCxAxl |
| | = | 1/3600x1xAxl |
| | = | 1.24 L/Sec |
- | | | |
|---|---|---------------------|
| V | = | Qxt |
| | = | Qx1x3600 L |
| | = | 4.46 m ³ |

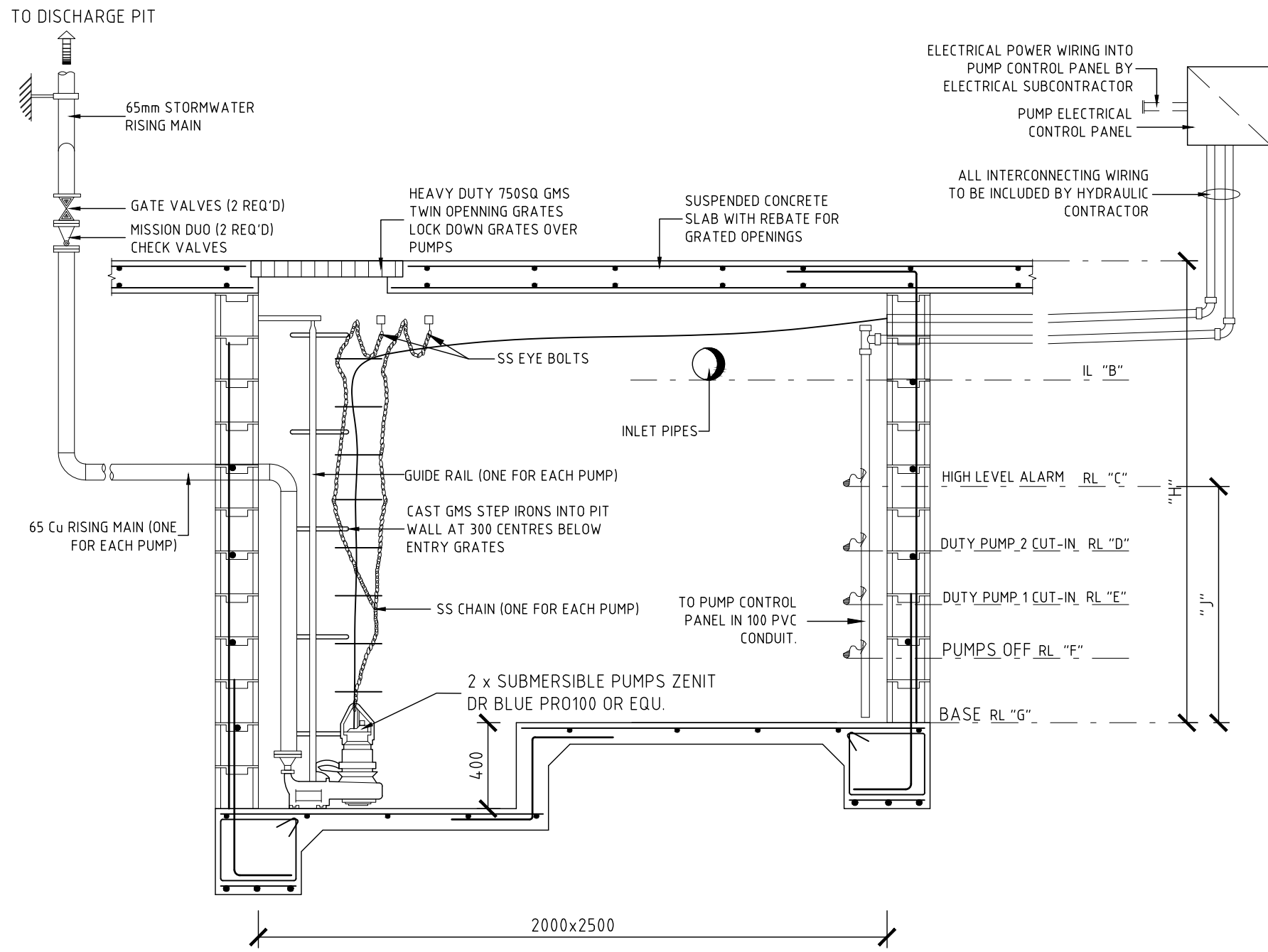
4. PUMP REQUIREMENTS
PUMP DISCHARGE REQUIREMENTS: 6 MINUTES, 100 YEAR ARI STORM
- | | | |
|---|---|--------------|
| Q | = | FxCxAxl |
| | = | 1/3600x1xAxl |
| | = | 6.20 L/Sec |

5. ADOPT 7 L/Sec
FOR EACH PUMP WITH HIGH LEVEL ON SWITCH FOR STANDBY PUMP TO
PROVIDE A TOTAL DISCHARGE OF 14 L/Sec

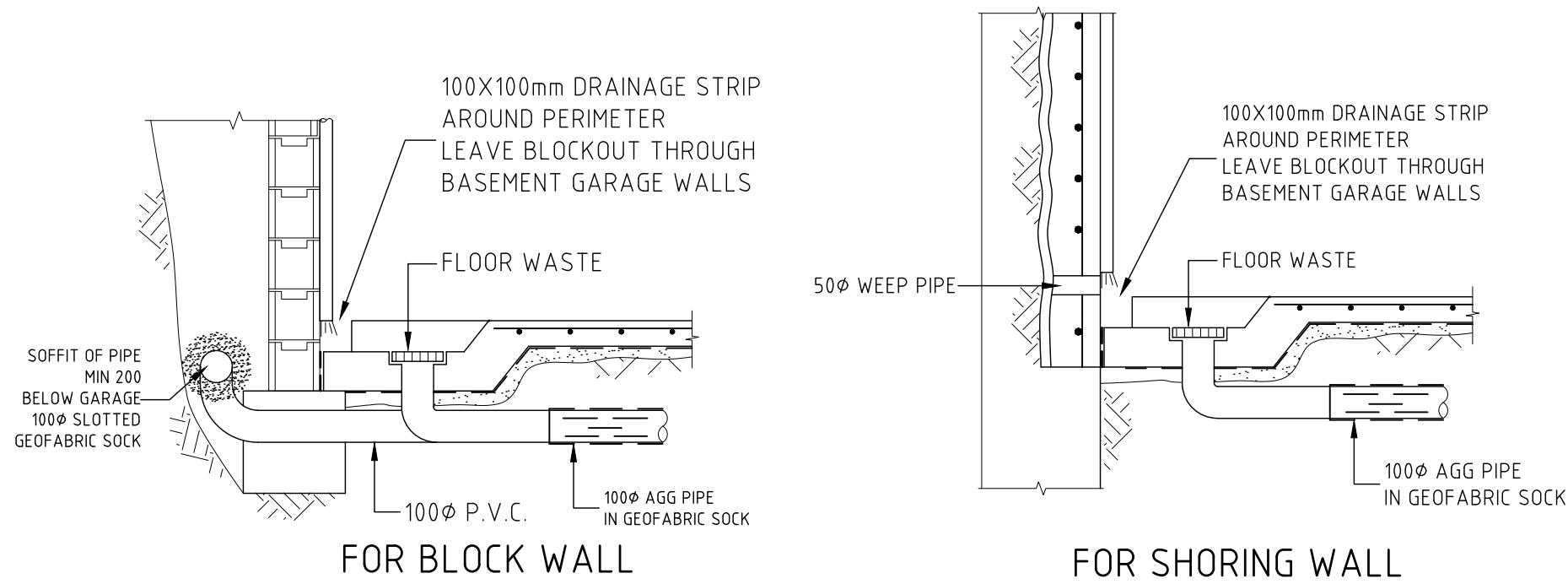
6. PUMPOUT TANK SIZES
- | | |
|------------|------------------|
| LENGTH (L) | 3 m |
| WIDTH(B) | 2 m |
| DEPTH (D) | 1 m |
| VOLUME(V) | 6 m ³ |

NOTE: The minimum pump capacity should be 10 L/s (AS3500.3 Cl. 9.3.6)

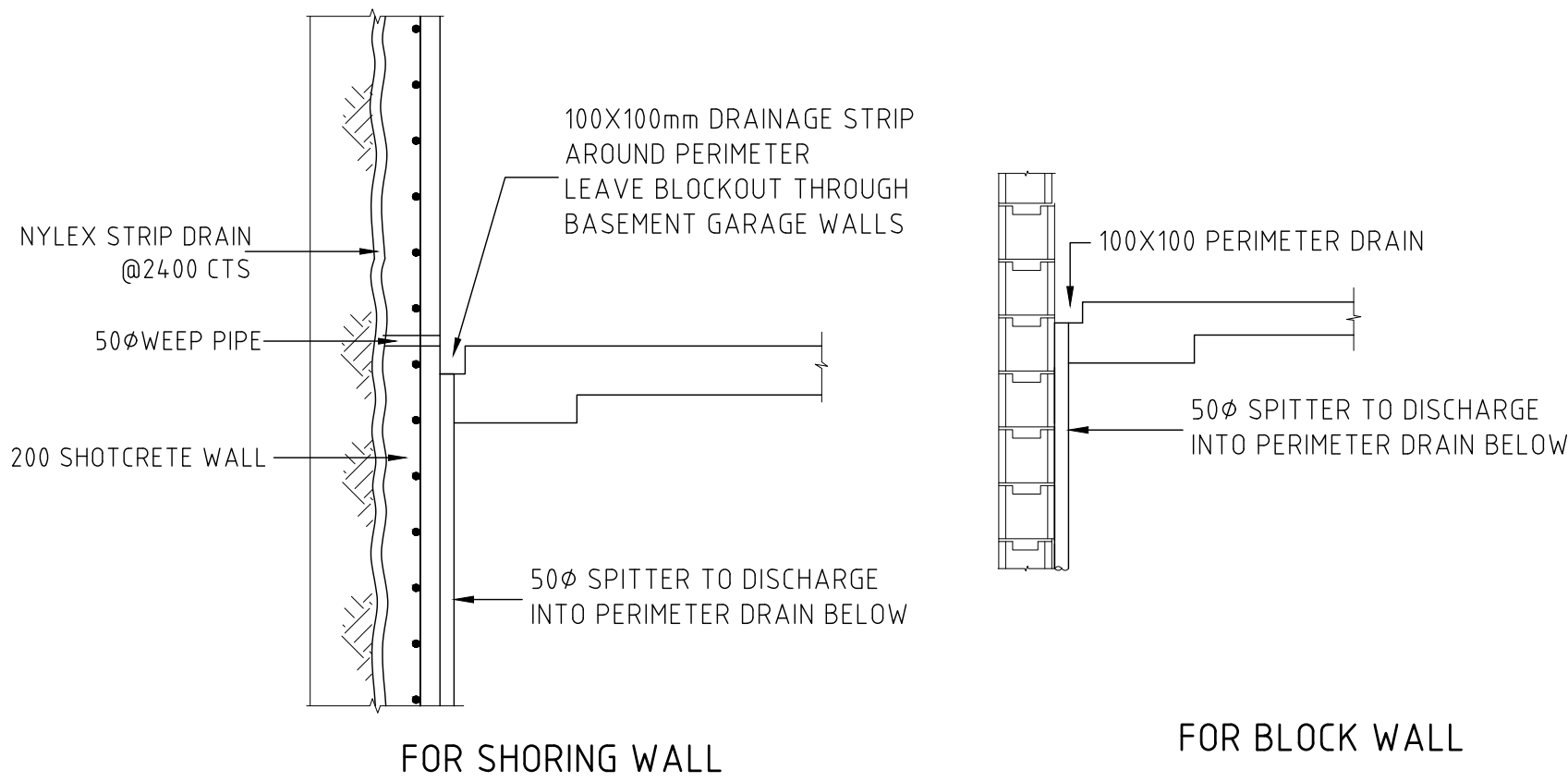
BASEMENT PUMP CALCULATION



BASEMENT STORMWATER SUMP



DETAIL "A" (D.A.)



DETAIL "B" (D.B.)

ABBREVIATIONS

- AH----ACCESS HATCH
DDO---DISH DRAIN OUTLET
CO----CLEAR OUT
DCP----DISCHARGE CONTROL PIT
DP-----DOWNPIPE
FFL----FINISH FLOOR LEVEL
FW-----FLOOR WASTE
GL-----GROUND FLOOR LEVEL
IL-----INVERT LEVEL
OSD-----ON SITE DETENTION
PD-----PLANTERS DRAIN
PFO----PLANTER FLOOR OUTLET
PP-----PLANTER PIT
RH-----RAINWATER HEAD
RP-----RELN PIT
RO-----ROOF OUTLET
SDO---STRIP DRAIN OUTLET
SIP----SURFACE INLET PIT
STP----SILT TRAP PIT
SP-----SPREADER
TD-----TUN DISH

BASEMENT STORMWATER SUMP NOTES

- THE MAINTENANCE OF THE SUMP SHOULD BE DONE BY THE PROFESSIONALS.
- IT IS THE HOMEOWNER/ BODY CORPORATE'S RESPONSIBILITY TO ENSURE THAT THE SUMP IS MAINTAINED REGULARLY.
- TEST THE SUMP REGULARLY. WHEN TESTING THE UNIT, ENSURE THAT THE FLOAT SWITCH AND THE CHECK VALVE ARE UNOBSTRUCTED AND MOVE FREELY.
- CHECK THE DISCHARGE LINE TO ENSURE THAT THERE IS NO BLOCKED OR FROZEN. IF NECESSARY, UNCLOG THE AIR VENT HOLE IN THE LINE.
- IF THE UNIT HAVE BACKUP BATTERY POWER, REPLACE THE BATTERY EVERY TWO TO THREE YEARS, OR AS DIRECTED BY THE MANUFACTURER.
- AT LEAST ONCE A YEAR, DISCONNECT THE PUMP FROM THE POWER SOURCE AND REMOVE THE UNIT. FLUSH THE SUMP THOROUGHLY WITH WATER TO REMOVE DEBRIS. WHILE THE PUMP IS OUT, ALSO CLEAN THE DEBRIS, STONES AND MUD FROM THE SUMP PIT. REINSTALL THE PUMP AND RECONNECT THE PUMP SOURCE.

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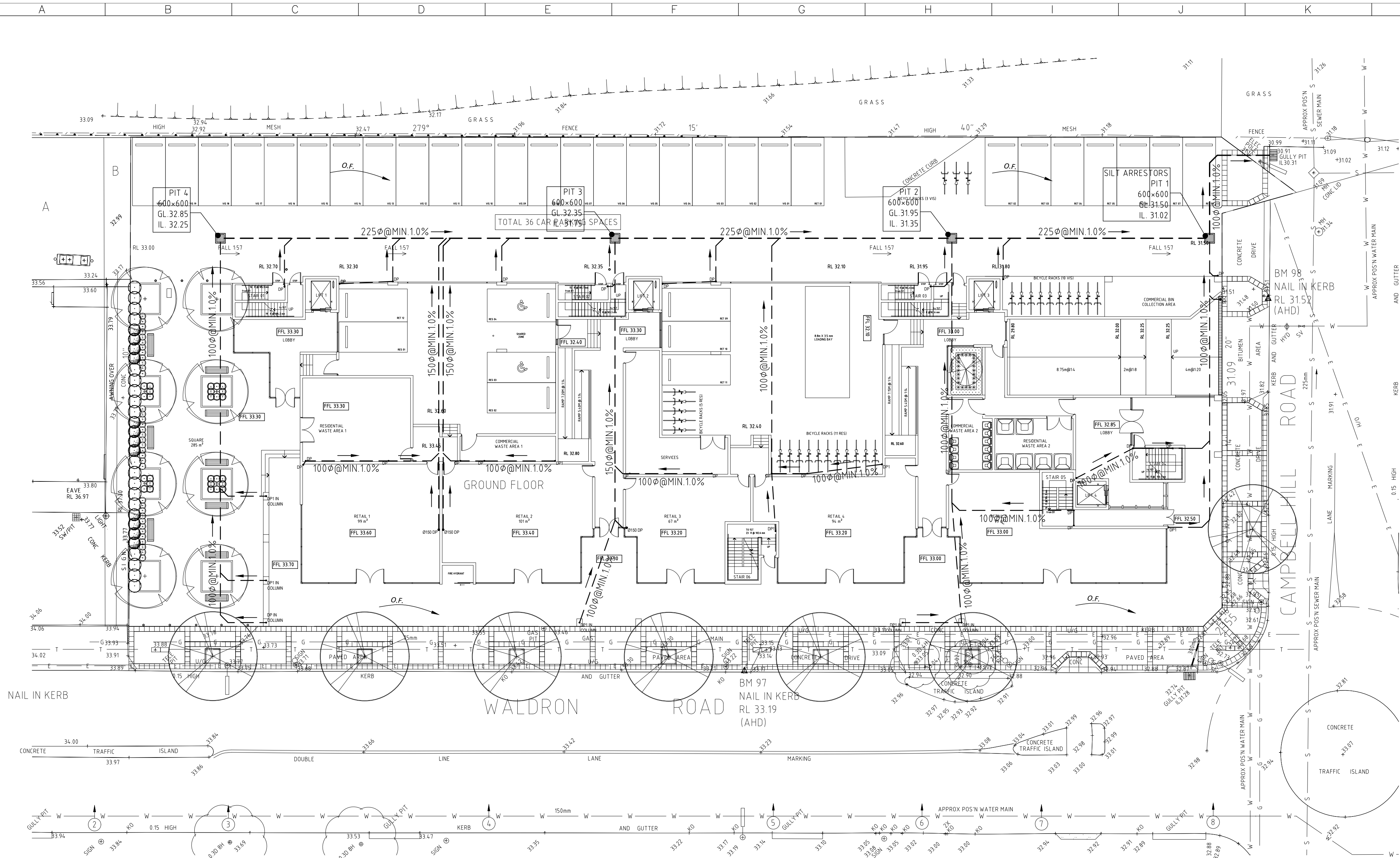
JOB NAME
**PROPOSED MIXED DEVELOPMENT
AT 141 WALDRON ROAD,
CHESTER HILL**

CLIENT, ARCHITECT
CMT ARCHITECT

DRAWING TITLE
**BASEMENT PUMP CALCULATION SHEET &
SECTION DETAILS**

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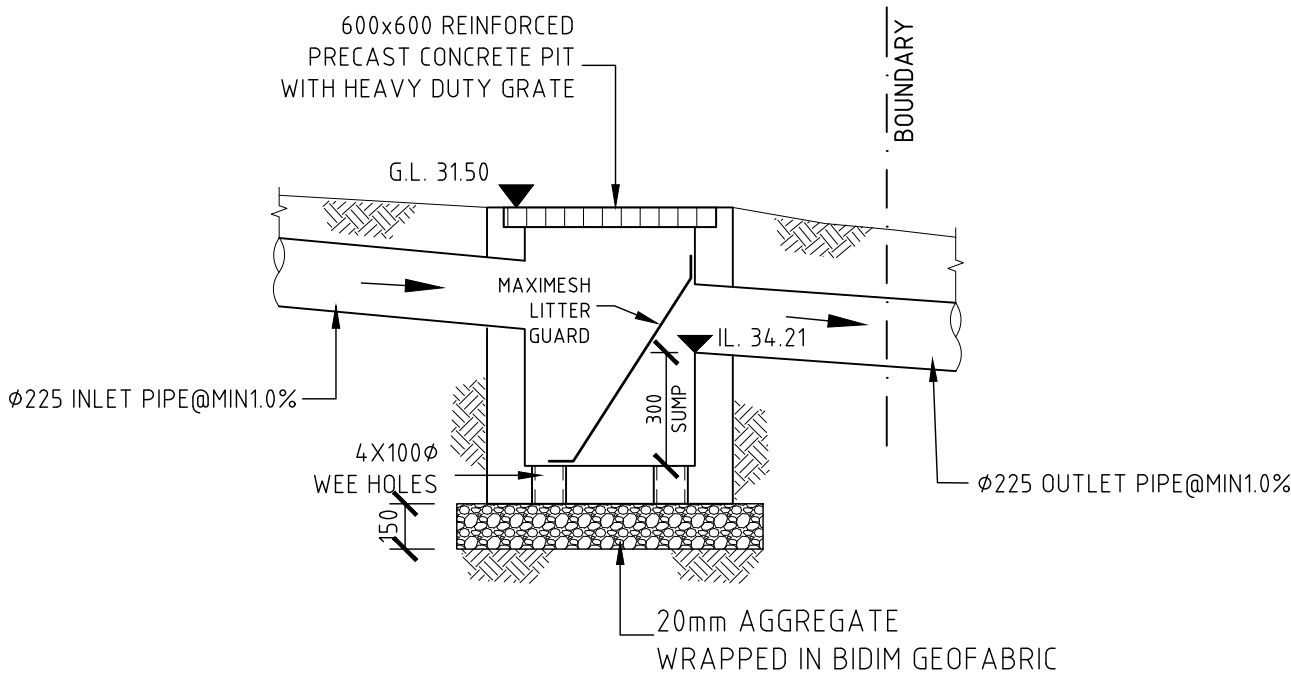
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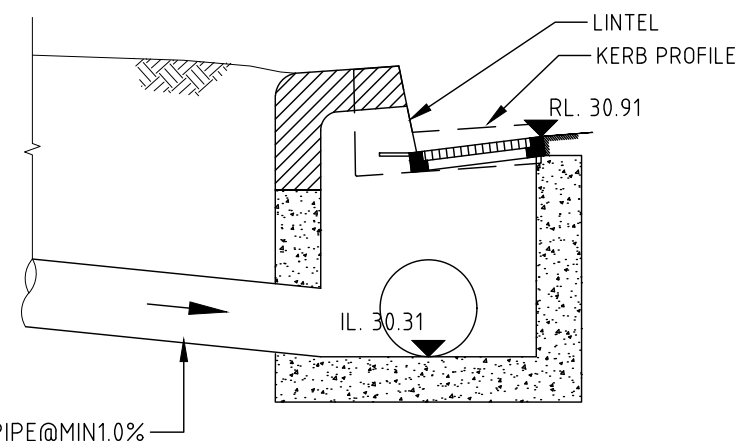
SITE/ GROUND FLOOR STORMWATER DRAINAGE PLAN
SCALE: 1:200

STORMWATER DRAINAGE NOTES

- PROVIDE INSPECTION OPENINGS TO ALL DOWNPIPES NOT DIRECTLY CONNECTED TO PITS.
- ALL PIPES TO BE 100Ø UPVC SEWER GRADE UNO, LAID ON A MIN 1% GRADE, MINIMUM 300mm COVER UNO.
- PIT SIZE
 - TO BE 450x450mm, PITS ARE 600mm OR LESS DEEP TO BE 450x450mm.
 - TO BE 600x600mm, PITS ARE GREATER THAN 600mm BUT LESS THAN 1000mm DEEP.
- ALL PIPES TO BE ADVISED.
- ALL PIT FLOORS TO HAVE A MINIMUM OF 20mm FALL, PROFILED AND STEAMLINED (FOR HALF OF THE DEPTH OF THE PIPE) IN THE DIRECTION OF FLOW.
- ALL GRATES ON THE DRIVEWAY TO BE HEAVY DUTY.
- ALL GUTTERS, PITS, PIPES AND DOWNPIPES TO BE INSTALLED IN ACCORDANCE WITH AS3500.3.2.1.1998.
- THE CONNECTION TO COUNCIL'S DRAINAGE SYSTEM SHALL BE CONSTRUCTED PRIOR TO THE CONSTRUCTION OF ALL INTERNAL DRAINAGE. THE COUNCIL ENGINEER BEING GIVEN 48 HOURS NOTICE PRIOR TO CONSTRUCTION.
- DRIVEWAY BOUNDARY LEVEL'S MUST BE CONFIRMED PRIOR TO CONSTRUCTION.



SILT ARRESTOR PIT 1



EXISTING GULLY PIT

NOTE: THESE NOTES ARE AN INTEGRAL PART OF THIS PLAN. STRICT COMPLIANCE WITH THIS DESIGN SHALL BE MAINTAINED. ANY DEVIATION FROM THIS DESIGN, WITHOUT PRIOR DISCUSSION AND APPROVAL BY THE SUPERVISING ENGINEER (SUPERINTENDENT), MAY CAUSE CERTIFICATION OF CONSTRUCTION AT THE COMPLETION OF WORK NOT TO BE ISSUED.

DOWNPIPE SIZING:

ALL THE DOWNPIPES ARE DESIGNED FOR A 1:100 ARI, 227mm/h.

- | | |
|----------------------------|-----------------------|
| 1. ROOF CATCHMENT AREA: | 1439.84m ² |
| 2. ARI 5MIN/100YR: | 227mm/h |
| 3. DOWNPIPE SIZE: | Ø100mm or 100 x 75mm |
| | Ø150mm or 125 x 100mm |
| 4. NO. OF DP PROVIDED: | 26 Ø100 DP |
| | 3 Ø150 DP |
| 5. AVE. CATCHMENT PER DP: | 48.30 m ² |
| AVE. CATCHMENT PER Ø150DP: | 61.36 m ² |

ABBREVIATIONS

- AH----ACCESS HATCH
DDO---DISH DRAIN OUTLET
CO---CLEAR OUT
DCP---DISCHARGE CONTROL PIT
DP---DOWNPIPE
FFL---FINISH FLOOR LEVEL
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RO---ROOF OUTLET
SDO---STRIP DRAIN OUTLET
SIP---SURFACE INLET PIT
STP---SILT TRAP PIT
SP---SPREADER
TD---TUN DISH

SITE INFORMATION:

- TOTAL SITE AREA: 3351.00 m²
- ROOF AREA: 1439.84 m²
- UNROOFED IMPERVIOUS AREA: 1911.16 m²
- TOTAL IMPERVIOUS AREA: 3351.00 m²
- IMPERVIOUS AREA PERCENTAGE: 100.00 %

ON-SITE DETENTION CALCULATION:

1. COUNCIL REQUIREMENT:

DESIGN ARI: 20YRS (COUNCIL'S REQUIREMENT) & 100YRS (PRE-DEVELOPMENT)
PERMISSIBLE SITE DISCHARGE (Q_d): 159 L/s (20 YRS) & 200 L/s (100 YRS)

2. TRIANGULAR HYDROGRAPH METHOD (USING DRAINS):

STORM	PEAK FLOW (m ³ /s)
AR&R 2yrs, 20min STORM, AVE. 61.3mm/h, ZONE 2	0.098
AR&R 5yrs, 20min STORM, AVE. 77.7mm/h, ZONE 2	0.124
AR&R 10yrs, 20min STORM, AVE. 87.1mm/h, ZONE 2	0.139
AR&R 20yrs, 20min STORM, AVE. 99.6mm/h, ZONE 2	0.159
AR&R 50yrs, 20min STORM, AVE. 116mm/h, ZONE 2	0.173
AR&R 100yrs, 20min STORM, AVE. 128mm/h, ZONE 2	0.191

PEAK INFLOW (POST-DEVELOPMENT): 159 L/s (AR&R 20yrs, 20min STORM, AVE. 99.6mm/h, ZONE 2)
191 L/s (AR&R 100yrs, 20min STORM, AVE. 128mm/h, ZONE 2)

PERMITTED OUTFLOW (PRE-DEVELOPMENT): 159 L/s (AR&R 20yrs, 20min STORM, AVE. 99.6mm/h, ZONE 2)
191 L/s (AR&R 100yrs, 20min STORM, AVE. 128mm/h, ZONE 2)

THEREFORE: PEAK FLOW (POST-DEV.) = PERMITTED OUTFLOW (PRE-DEV.)

NOTE: AS THE PEAK FLOW FROM THE POST-DEVELOPMENT IS EQUAL TO THE PRE-DEVELOPMENT FOR BOTH 20YRS & 100YRS ARI. THEREFORE OSD IS NOT REQUIRED.

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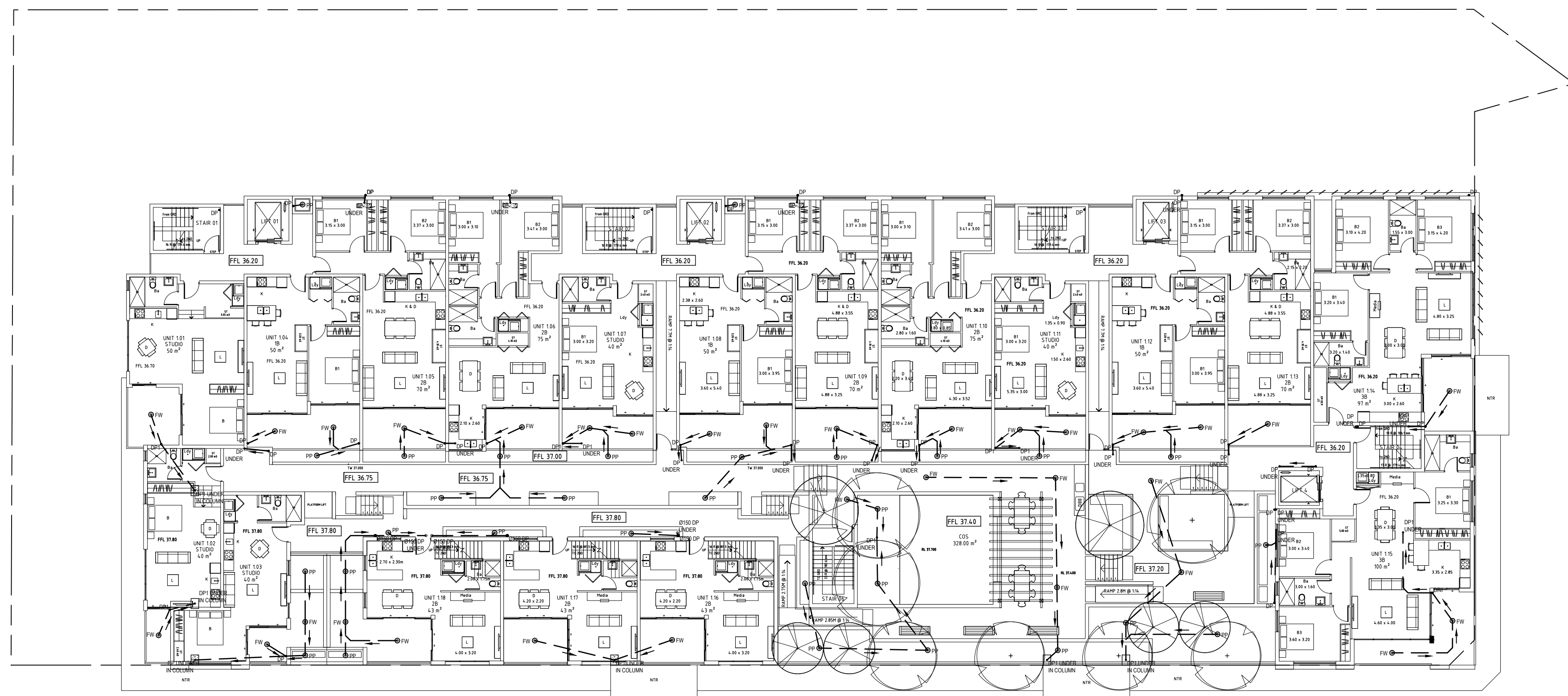
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**SITE/ GROUND FLOOR STORMWATER DRAINAGE
PLAN, SECTION DETAILS & DESIGN VALUES**

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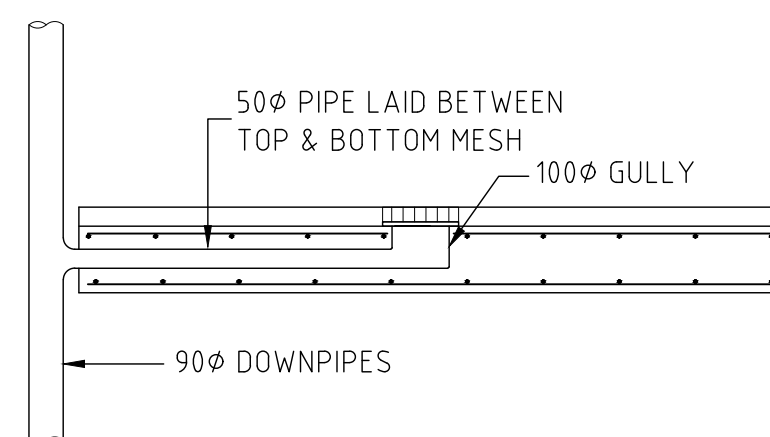


LEGEND

 COLUMN UNDER

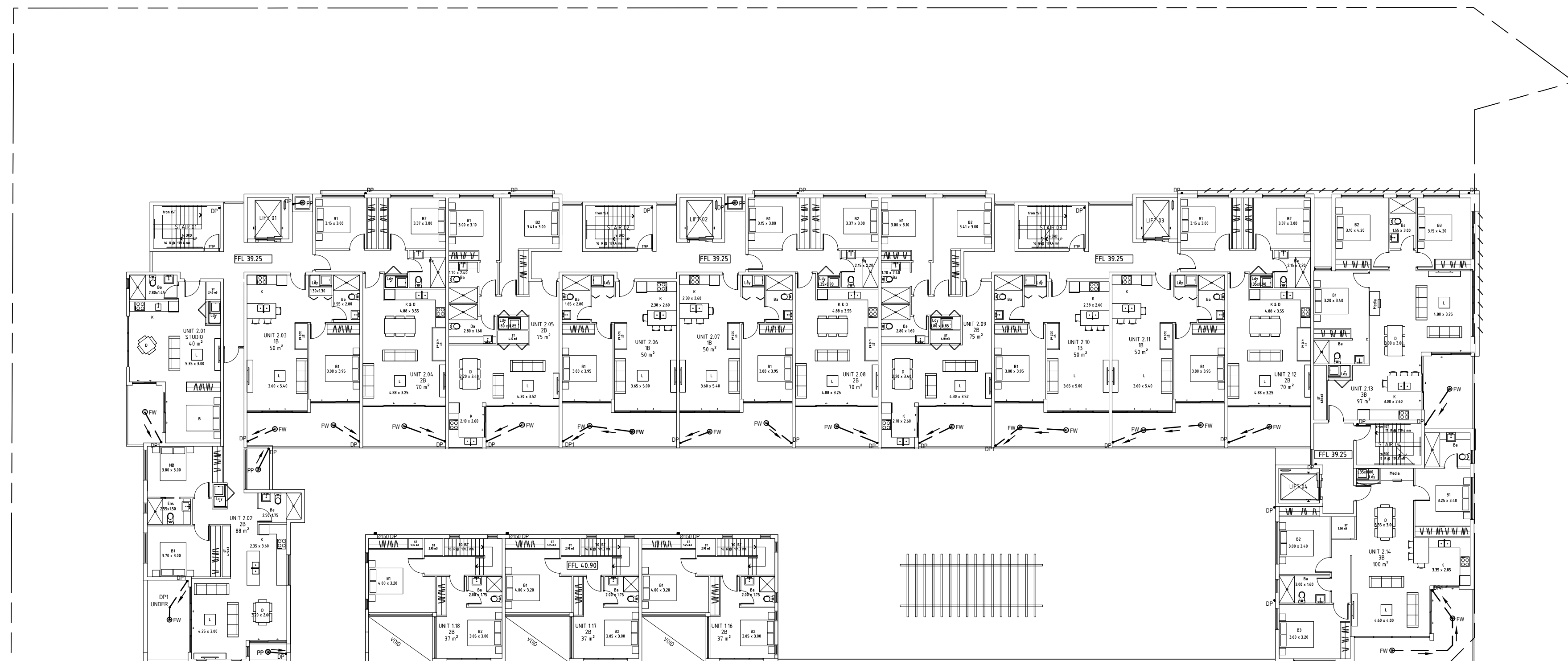
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TYPICAL BALCONY FLOOR WASTE (F.W.)

NOTE 1: Ø50 PIPE CAST INTO SLAB TYPICALLY FOR ALL FLOOR WASTES AND PLANTER PITS.



SECOND FLOOR STORMWATER DRAINAGE PLAN SCALE: 1:200

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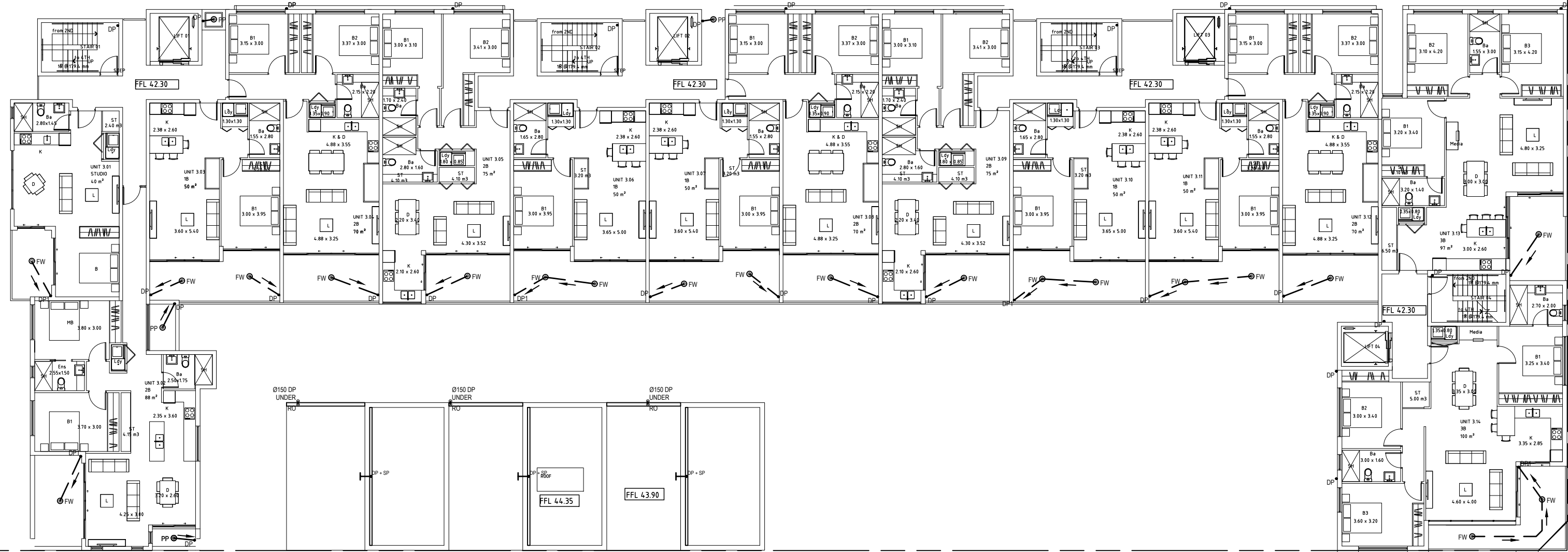
FIRST & SECOND FLOOR STORMWATER
DRAINAGE PLAN, SECTION DETAILS.

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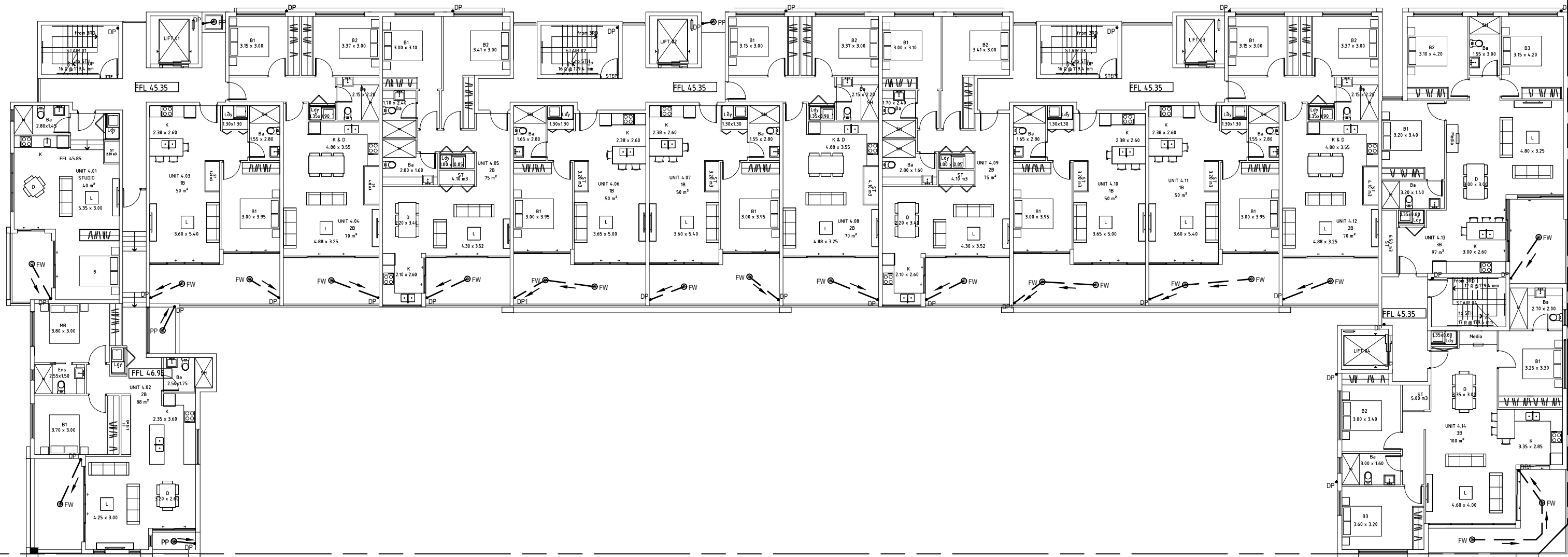
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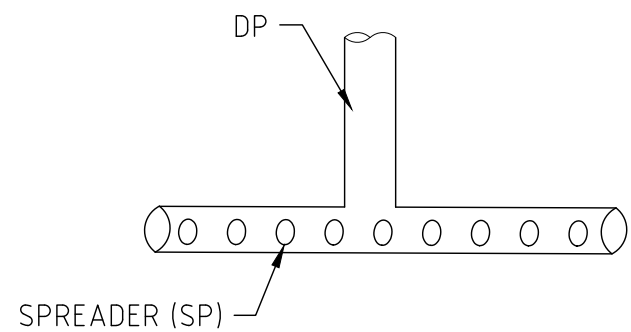
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THIRD FLOOR STORMWATER DRAINAGE PLAN SCALE: 1:200



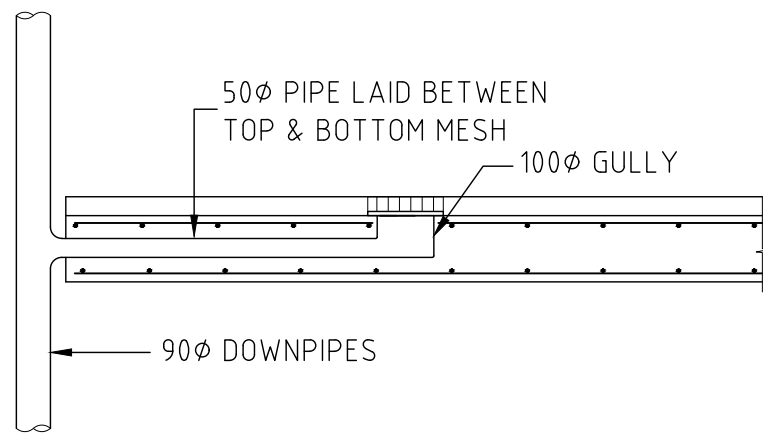
FOUTH - SIXTH FLOOR STORMWATER DRAINAGE PLAN SCALE: 1:200



SPREADER DETAIL

ABBREVIATIONS

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- TD-----TUN DISH



TYPICAL BALCONY FLOOR WASTE (F.W.)

NOTE 1: 50mm PIPE CAST INTO SLAB TYPICALLY FOR ALL FLOOR WASTES AND PLANTER PITS.

REV.	DATE	BY	CHECKED	AMENDMENTS
B	13 APR. 17	W.L.	S.W.W.	AMENDED DRAWINGS
A	30 MAR. 17	W.L.	S.W.W.	PRELIMINARY ISSUE

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JOB NAME
PROPOSED MIXED DEVELOPMENT
AT 141 WALDRON ROAD,
CHESTER HILL

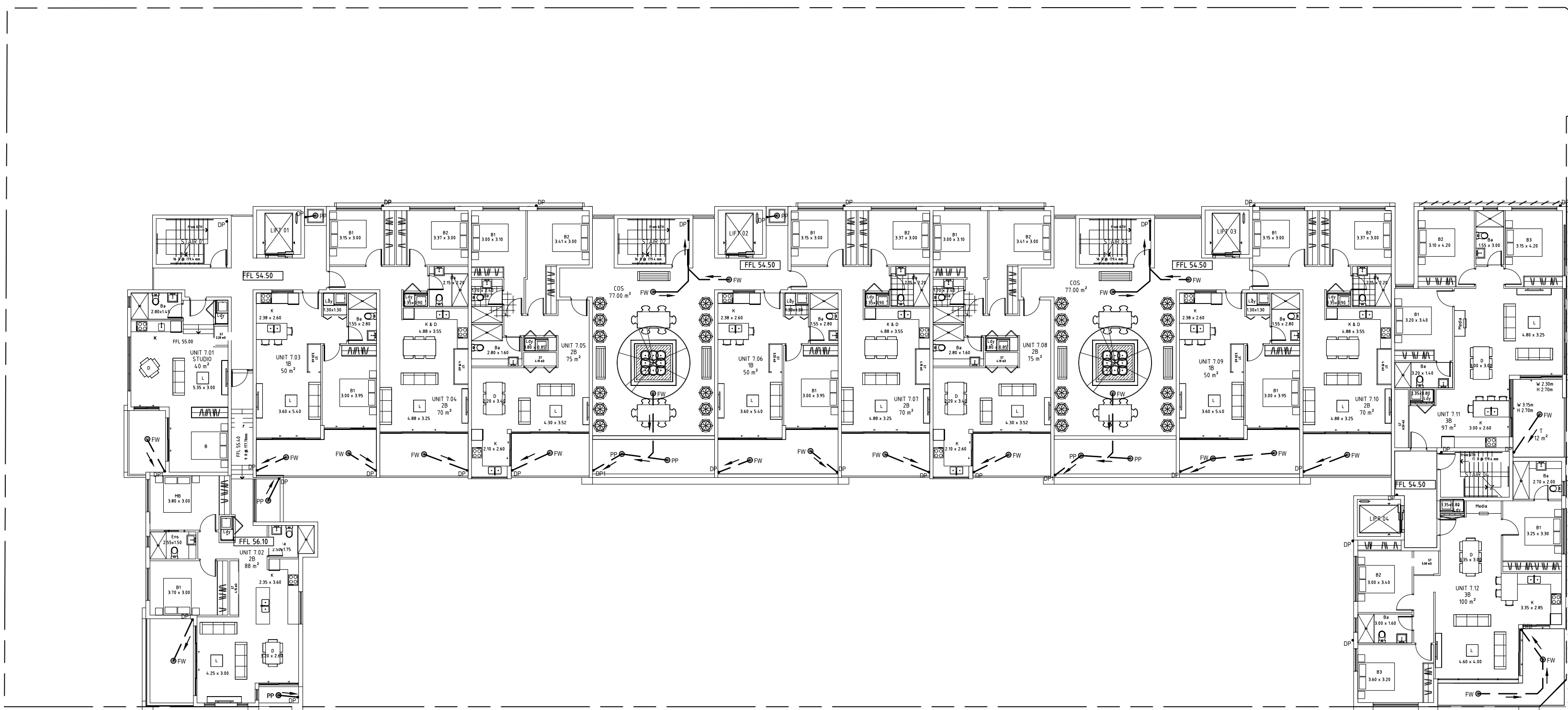
CLIENT, ARCHITECT
CMT ARCHITECT

DRAWING TITLE
THIRD & FOURTH - SIXTH FLOOR STORMWATER
DRAINAGE PLAN, SECTION DETAILS.

No. IN SET	JOB No	1023.15	DRG. No	REV
			D6	B
SCALE	DESIGNED	DRAWN	DATE	No.
N.T.S.	S.W.W.	W.L.	MAR. 2017	

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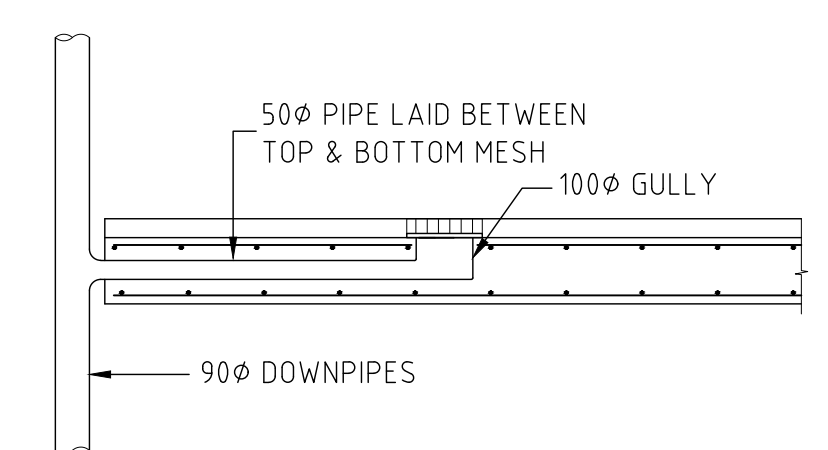


SEVENTH FLOOR STORMWATER DRAINAGE PLAN

SCALE: 1:200

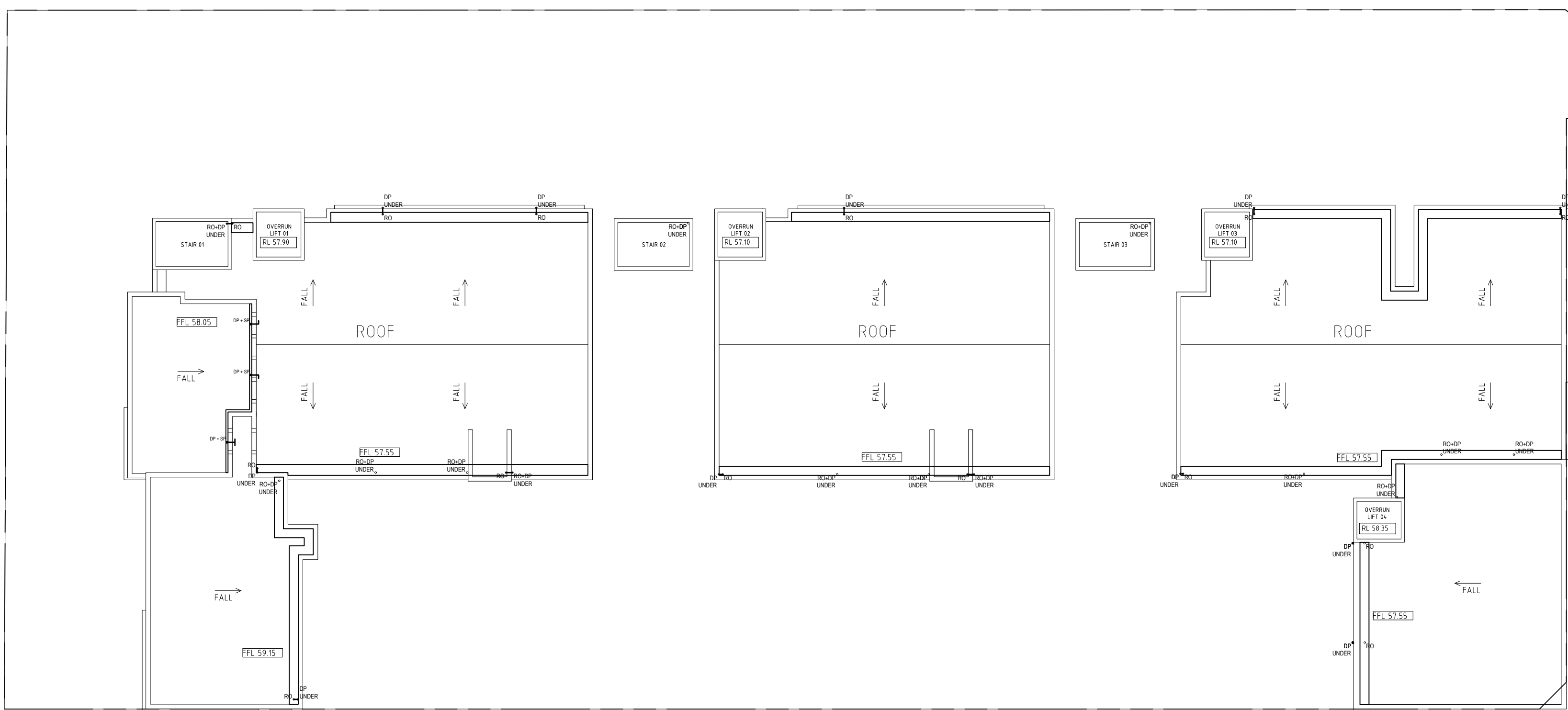
ABBREVIATIONS

- AH----ACCESS HATCH
- DDO---DISH DRAIN OUTLET
- CO----CLEAR OUT
- DCP----DISCHARGE CONTROL PIT
- DP----DOWNPIPE
- FFL----FINISH FLOOR LEVEL
- FW----FLOOR WASTE
- GL-----GROUND FLOOR LEVEL
- IL-----INVERT LEVEL
- OSD----ON SITE DETENTION
- PD----PLANTERS DRAIN
- PFO----PLANTER FLOOR OUTLET
- PP-----PLANTER PIT
- RH-----RAINWATER HEAD
- RP-----RELN PIT
- RO-----ROOF OUTLET
- SDO---STRIP DRAIN OUTLET
- SIP----SURFACE INLET PIT
- STP----SILT TRAP PIT
- SP-----SPREADER
- TD-----TUN DISH



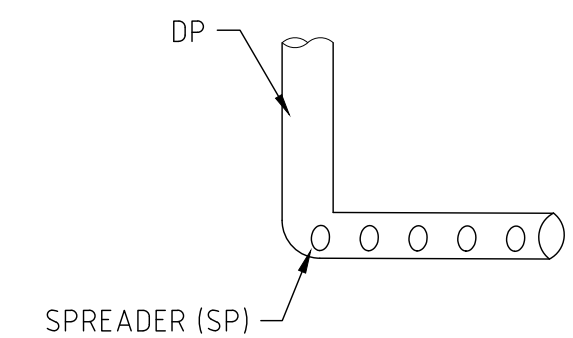
TYPICAL BALCONY FLOOR WASTE (F.W.)

NOTE 1: $\phi 50$ PIPE CAST INTO SLAB TYPICALLY FOR ALL FLOOR WASTES AND PLANTER PITS.

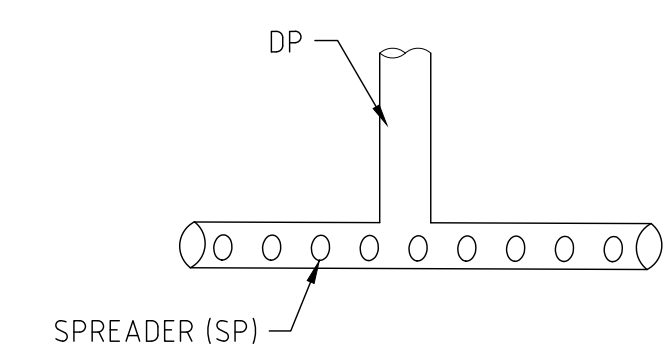


ROOF STORMWATER DRAINAGE PLAN

SCALE: 1:200



SPREADER DETAIL



SPREADER DETAIL

REV.	DATE	BY	CHECKED	AMENDMENTS
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JOB NAME
**PROPOSED MIXED DEVELOPMENT
AT 141 WALDRON ROAD,
CHESTER HILL**

CLIENT, ARCHITECT
CMT ARCHITECT

DRAWING TITLE
**SEVENTH FLOOR & ROOF STORMWATER
DRAINAGE PLAN, SECTION DETAILS.**

No. IN SET	JOB No	1023.15	DRG. No	REV
			D7	B
SCALE	DESIGNED	DRAWN	DATE	No.
N.T.S.	S.W.W.	W.L.	MAR. 2017	

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