

# 49 FOREST WAY, FRENCHS FOREST

## STORMWATER MANAGEMENT PLAN

| DRAWING NUMBER | REVISION | DRAWING TITLE                |
|----------------|----------|------------------------------|
| DR-000         | 3        | LEGEND                       |
| DR-001         | 3        | PIPE LAYOUT & DETAILS        |
| DR-002         | 3        | LEVEL 1 & ROOF LAYOUT        |
| DR-003         | 3        | RAINWATER TANK & PIT DETAILS |
| DR-004         | 1        | CATCHMENT PLAN & OSD DETAIL  |

NOTES:

1. ALL DIMENSIONS TO BE CONFIRMED ON SITE PRIOR TO CONSTRUCTION.

2. SITE LAYOUT BASED ON ARCHITECTURAL PLANS BY WALSH<sup>2</sup> ARCHITECTS (DECEMBER 2019) & SURVEY BY DAW AND WALTON CONSULTING SURVEYORS (24/08/2018).

3. LOCATION OF ALL SERVICES MUST BE CONFIRMED ON SITE PRIOR TO COMMENCEMENT OF EXCAVATION WORKS.

4. ALL STORMWATER DRAINAGE PIPES AND ASSOCIATED DEVICES ARE TO BE INSTALLED IN ACCORDANCE WITH THE RELEVANT STANDARDS, THE BUILDING CODE OF AUSTRALIA, MANUFACTURER’S RECOMMENDATIONS, SYDNEY CATCHMENT AUTHORITY RECOMMENDED PRACTICE, AND LOCAL COUNCIL, AS APPLICABLE.

5. ALL INVERT LEVELS PROVIDED ON THIS DRAWING ARE REDUCED TO AHD AND BASED ON INTERPOLATED SURFACE LEVELS AND SYSTEM REQUIREMENTS.
6. WHERE POSSIBLE, PIPEWORK SHALL BE LOCATED EXTERNAL TO THE BUILDING.

7. DOWNPIPES AND STORMWATER LINES TO BE SEALED DN100 uPVC UNLESS OTHERWISE NOTED.


8. STORMWATER PIPES TO BE GRADED AT A MINIMUM 1% UNLESS NOTED OTHERWISE.


9. ALTERNATIVE GUTTER AND DOWNPIPE CONFIGURATION MAY BE INSTALLED PROVIDED IT COMPLIES WITH AS3500.


10. ALL PIPE AND CONDUITS TO BE MARKED IN ACCORDANCE WITH AS1345 – 1995.


11. TRENCHES AND SERVICE SEPARATIONS IN ACCORDANCE WITH AS/NZS 5601, AS/NZS 3500, AND AS/CA S009.

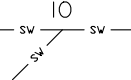
LEGEND:

- 

DOWNPIPE
- 


STORMWATER PIPE
- 

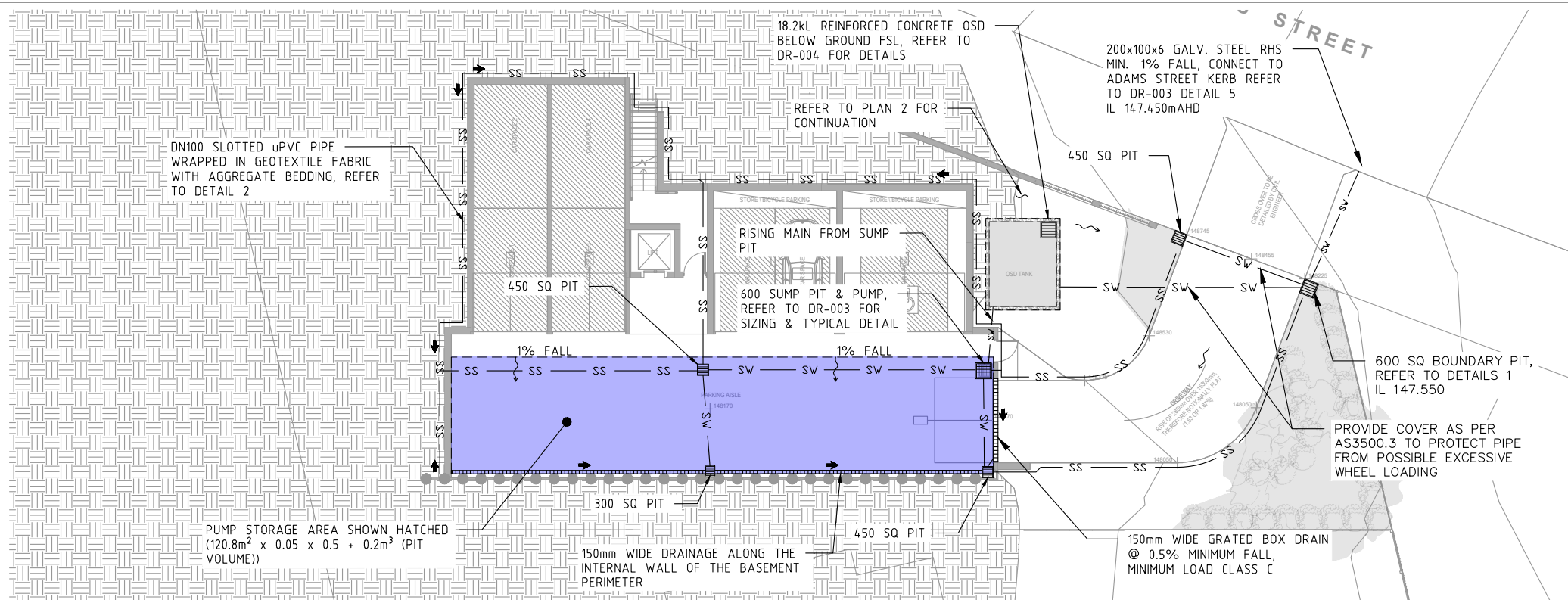
RAINWATER PIPE
- 

DRAINAGE PIT
- 

INSPECTION OPENING

NOT FOR CONSTRUCTION

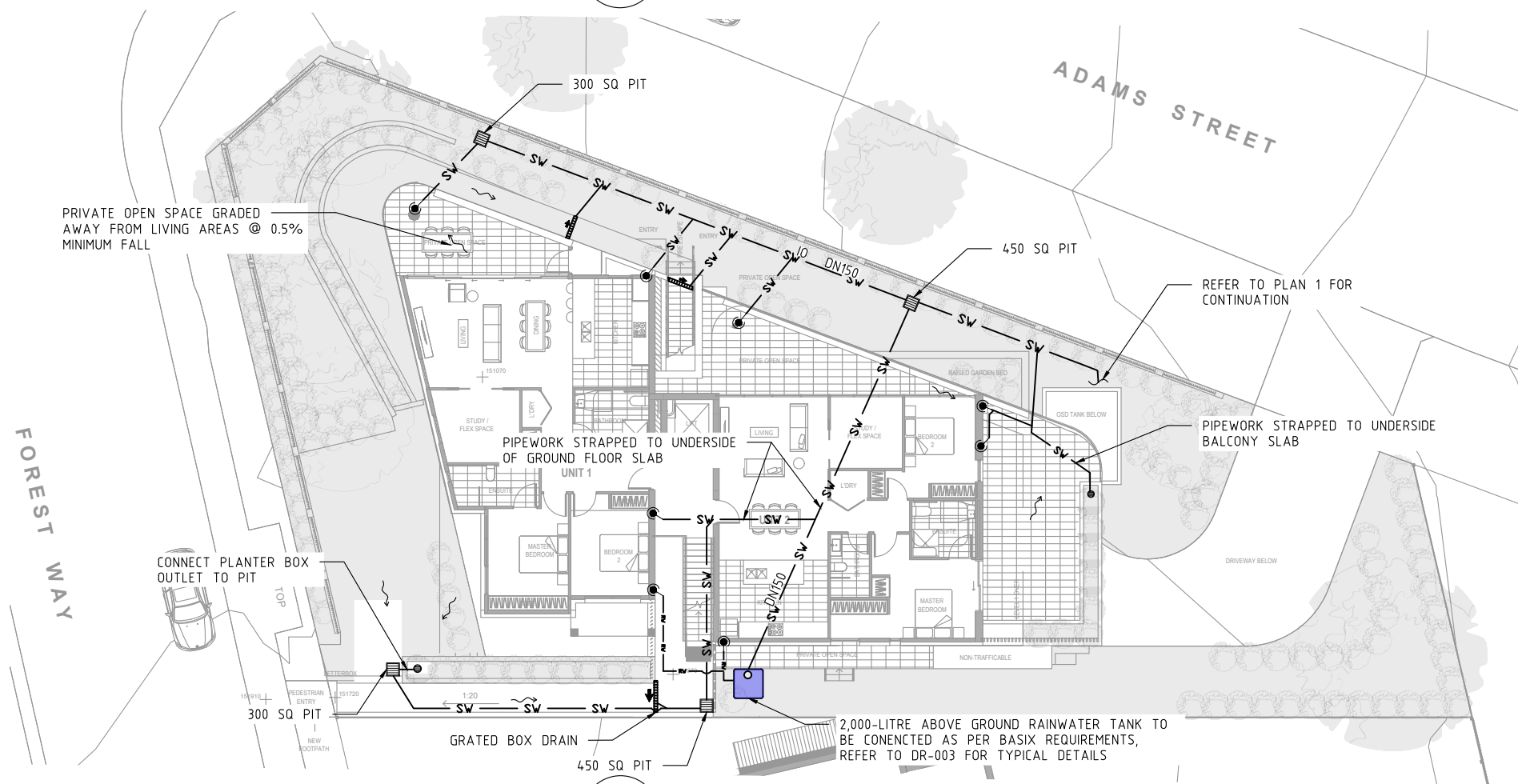
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|---|-----|------------|------------|-------------------|--|-------------|----|---|--|------|--|--|---|--|--|--|-------------------------------|--|--|--|------------|--|--|------|--------|----|--|--------|--|-------------------|--|---------|--|--------|--|------|--|---|--|
| This drawing is confidential and shall only be used for the purposes of this project. |     |            |            |                   |  | Scale       |    | THE SIGNING OF THIS TITLE BLOCK CONFIRMS THE DESIGN AND DRAFTING OF THIS PROJECT HAVE BEEN PREPARED AND CHECKED IN ACCORDANCE WITH THE STELLEN QUALITY ASSURANCE SYSTEM |  |      |  | <div></div> <div>Stellen</div> <div>Stellen Consulting ABN 61 149 095 189</div> | This design complies with:<br>AS3500.3:2018 |  |  |  | 49 FOREST WAY, FRENCHS FOREST |  |  |  |            |  |  |      |        |    |  |        |  |                   |  |         |  |        |  |      |  |   |  |
| REVISIONS   |     |            |            |                   |  |             | NA | DESIGNED  |  |      |  |  | MAI   |  |  |  | CHECKED                       |  |  |  | LES        |  |  |      | LEGEND |    |  |        |  |                   |  |         |  |        |  |      |  |   |  |
|   | 3   | MAI        | 26/03/2020 | FOR DA            |  |             |    | DRAWN   |  |      |  |  | MAI   |  |  |  | CHECKED                       |  |  |  | LES        |  |  |      |        |    |  |        |  |                   |  |         |  |        |  |      |  |   |  |
|   | 2   | MAI        | 31/01/2020 | PRE-DA            |  |             |    | APPROVED  |  |      |  |  | LES   |  |  |  | DATE                          |  |  |  | 26/03/2020 |  |  |      |        |    |  |        |  |                   |  |         |  |        |  |      |  |   |  |
|   | 1   | YYA        | 01/07/2019 | FOR DA SUBMISSION |  |             |    |   |  |      |  |  |   |  |  |  |                               |  |  |  |            |  |  |      |        |    |  |        |  |                   |  |         |  |        |  |      |  |   |  |
| 0   | YYA | 19/06/2019 | DRAFT      |                   |  |             |    |   |  |      |  |  |   |  |  |  |                               |  |  |  |            |  |  |      |        |    |  |        |  |                   |  |         |  |        |  |      |  |   |  |
| No  |     | BY         |            | DATE              |  | DESCRIPTION |    | SSD   |  | APPD |  | DO NOT SCALE. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED   |   |  |  |  |                               |  |  |  |            |  |  | Size |        | A3 |  | Status |  | FOR DA SUBMISSION |  | Dwg No. |  | DR-000 |  | Rev. |  | 3 |  |



PLAN  
1

## PIPE LAYOUT-BASEMENT PLAN

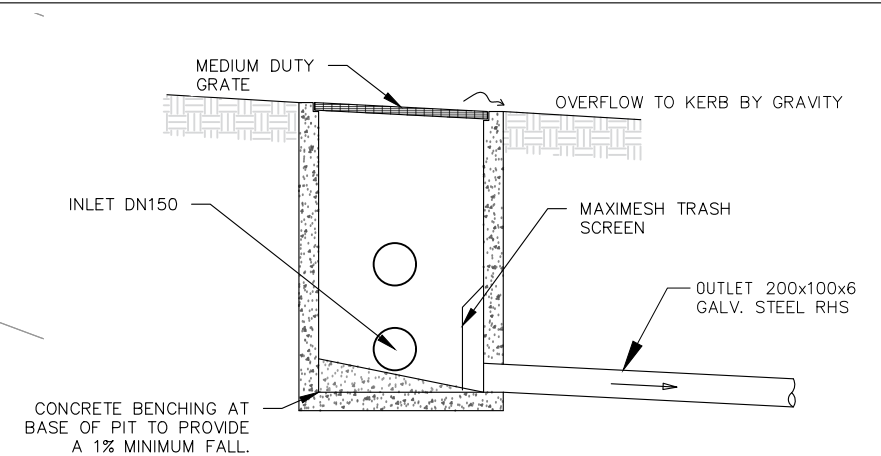
1: 250



PLAN  
2

## PIPE LAYOUT-GROUND PLAN

1: 250



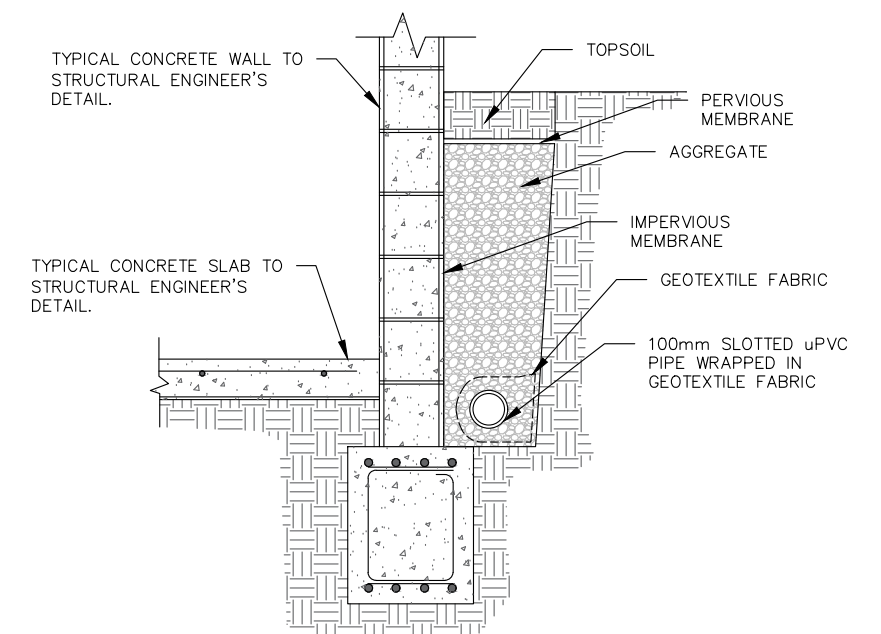
DETAIL  
1

## 600 SQUARE MEDIUM DUTY PIT

NOT TO SCALE

NOTES:

1. 'LYSAGHT' MAXIMESH RH3030 (HOT DIPPED GALVANISED) OR EQUIVALENT.
2. MAXI MESH SCREENS MUST BE PLACED SUCH THAT THE LONG AXIS OF THE OVAL SHAPED HOLES ARE ORIENTATED HORIZONTALLY WITH THE PROTRUDING LIP ANGLED UPWARDS AND FACING TOWARDS THE OUTLET.



DETAIL  
2

## TYPICAL SUBSOIL DRAINAGE DETAIL

NOT TO SCALE

NOT FOR CONSTRUCTION

| REVISIONS |     |            |                   |      |
|-----------|-----|------------|-------------------|------|
| No.       | BY  | DATE       | DESCRIPTION       | APPD |
| 3         | MAI | 26/03/2020 | FOR DA            | LES  |
| 2         | MAI | 31/01/2020 | PRE-DA            | LES  |
| 1         | YYA | 01/07/2019 | FOR DA SUBMISSION | SSD  |
| 0         | YYA | 19/06/2019 | DRAFT             | SSD  |

Scale

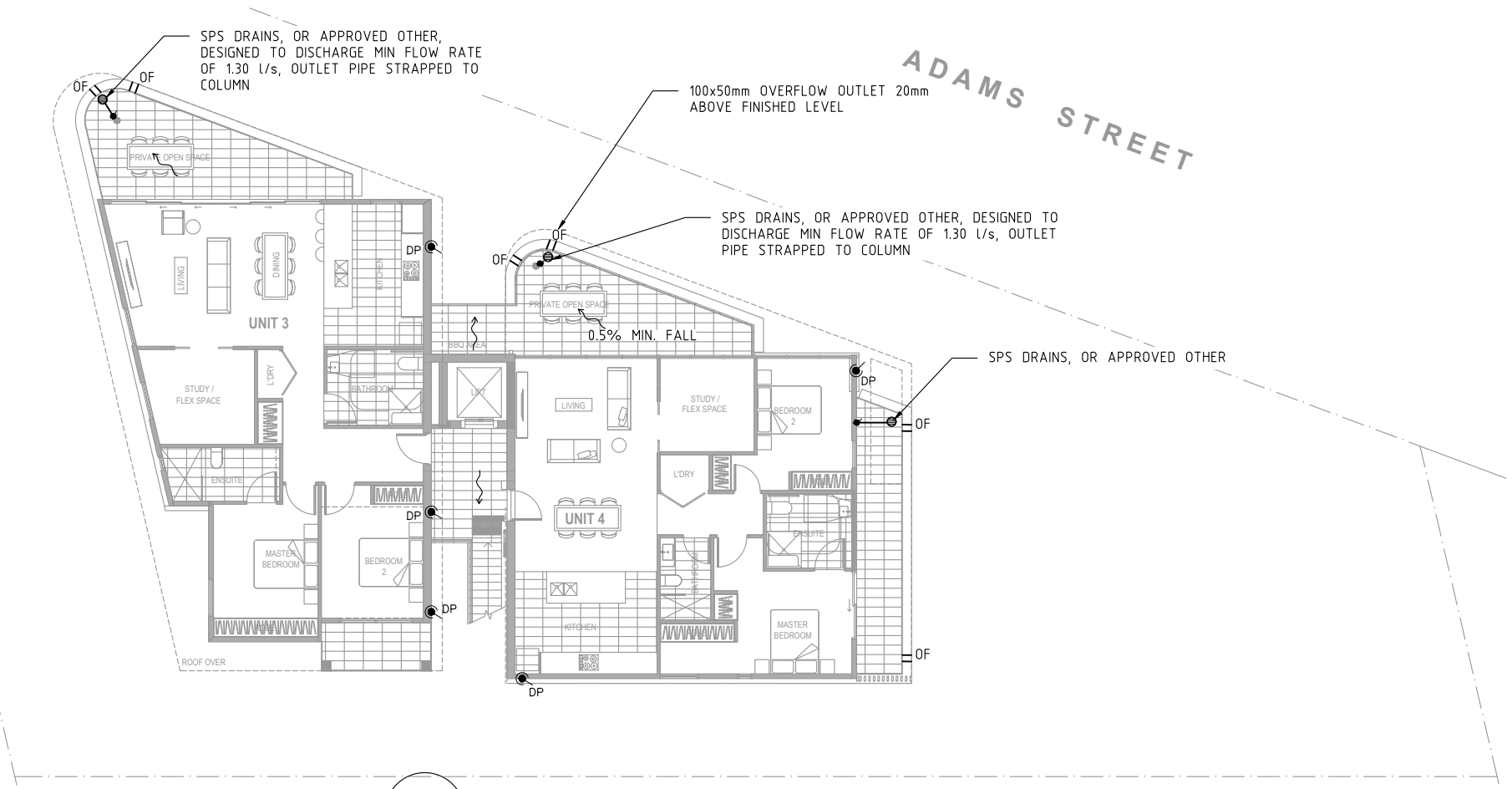
**AS NOTED**

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| DRAWN   | MAI | CHECKED | LES        |
| APPROVED  | LES | DATE    | 26/03/2020 |



|   |                               |                             |                   |           |
|---|-------------------------------|-----------------------------|-------------------|-----------|
| This design complies with:<br>AS3500.3:2018 | 49 FOREST WAY, FRENCHS FOREST |                             |                   |           |
|   | PIPE LAYOUT & DETAILS         |                             |                   |           |
|   | Size<br>A3                    | Status<br>FOR DA SUBMISSION | Org No.<br>DR-001 | Rev.<br>3 |



**NOMENCLATURE**

|      |   |   |
|------|---|---|
| RWH  | - | RAINWATER HEAD, REFER TO DETAIL 3 & TABLE 1 |
| BG   | - | BOX GUTTER                                  |
| OF   | - | 100X50mm EMERGENCY OVERFLOW OPENING         |
| Ac   | - | PLAN CATCHMENT AREA EXCLUDING ROOF PITCH    |
| Q100 | - | 100YR 5 MINUTE ARI FLOW RATE                |
| Q20  | - | 20YR 5 MINUTE ARI FLOW RATE                 |

**GUTTER SIZING**  
RWH DESIGNED TO ARI (100YR:276mm/hr)  
EAVES GUTTER DESIGNED TO ARI (20YR:205mm/hr)  
EG1 - MIN CSA 7,000 mm<sup>2</sup>

**LEGEND**

TYPE  
DIA

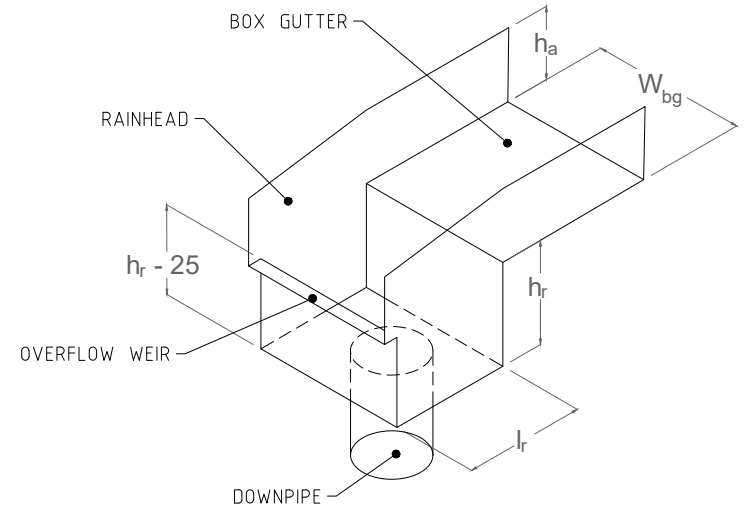
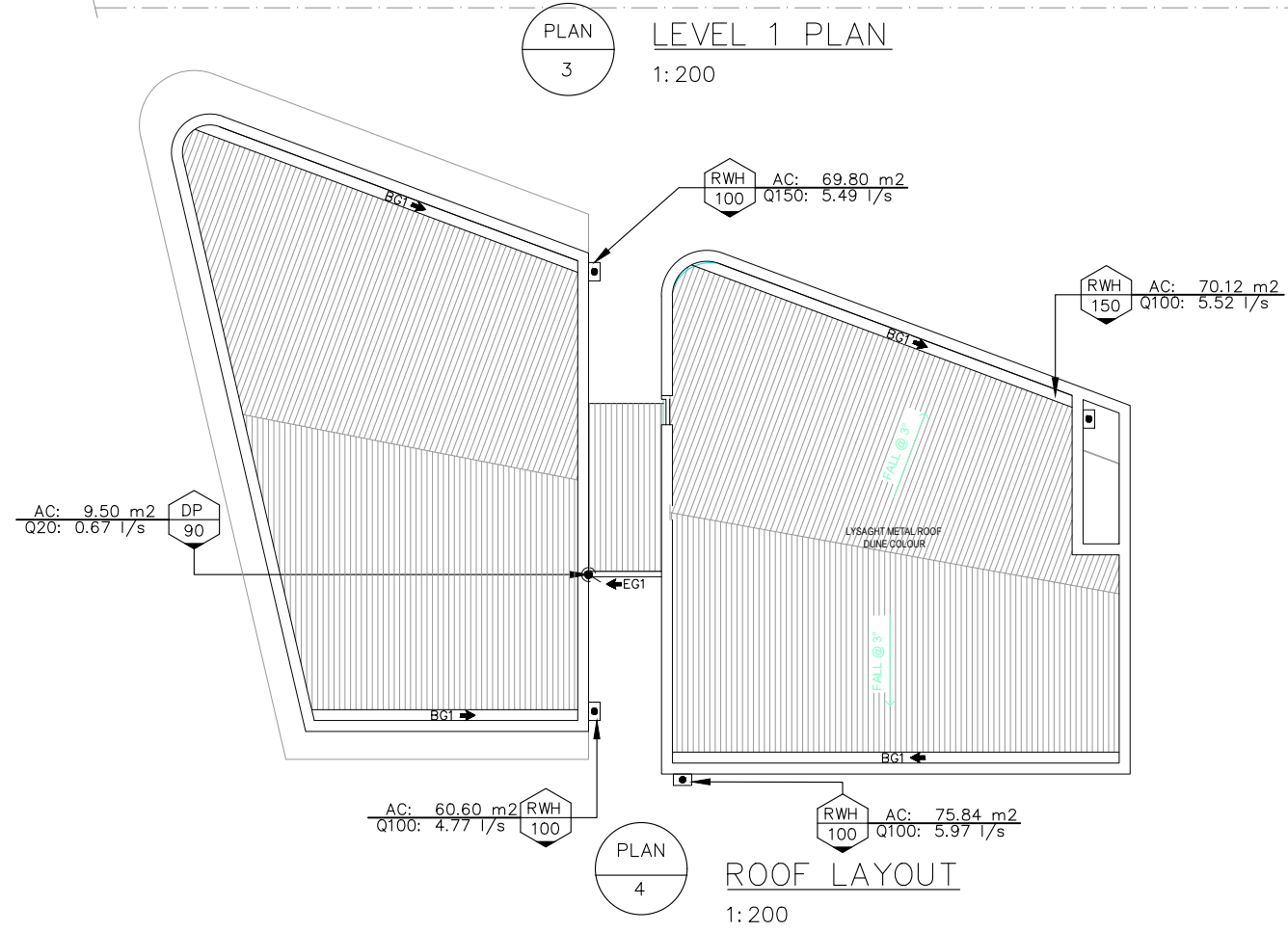
DOWNPIPE TYPE AND DIAMETER

DIRECTION OF FALL

RAINWATER HEAD

SPS DRAIN, OR APPROVED OTHER

| TABLE 1 – RAINWATER HEAD DESIGN<br>(100 YEAR ARI, 1:200 FALL) |                 |                     |
|---|-----------------|---------------------|
| ROOF SERVICE AREA   | –               | 75.84m <sup>2</sup> |
| DOWNPIPE DIAMETER   | DP              | 100mm               |
| BOX GUTTER WIDTH (MIN)  | W <sub>bg</sub> | 300mm               |
| BOX GUTTER DEPTH (MIN)  | h <sub>a</sub>  | 135mm               |
| LENGTH OF RAINWATER HEAD                                      | L <sub>r</sub>  | 125mm               |
| RAINWATER HEAD DEPTH  | h <sub>r</sub>  | 135mm               |
| RAINWATER HEAD WIDTH (MIN)                                    | W <sub>rh</sub> | 300mm               |



- NOTES:**
1. TOP OF RAINWATER HEAD TO BE SET MIN 25mm LOWER THAN INVERT OF BOX GUTTER.
  2. RAINWATER HEAD OVERFLOW WEIR TO BE SET 25mm BELOW SOLE OF BOX GUTTER.
  3. BOX GUTTER SOLE TO HAVE MINIMUM 1:200 FALL
  4. BOX GUTTER AND RAINHEAD TO BE DESIGNED TO ARCHITECTURAL SPECIFICATION PROVIDED IT COMPLIES WITH THE MINIMUM DIMENSIONS IN TABLE 1.

NOT FOR CONSTRUCTION

REVISIONS

|     |     |            |                   |      |
|-----|-----|------------|-------------------|------|
| No. | BY  | DATE       | DESCRIPTION       | APPD |
| 3   | MAI | 26/03/2020 | FOR DA            | LES  |
| 2   | MAI | 31/01/2020 | PRE-DA            | LES  |
| 1   | YYA | 01/07/2019 | FOR DA SUBMISSION | SSD  |
| 0   | YYA | 19/06/2019 | DRAFT             | SSD  |

Scale

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| DRAWN    | MAI | CHECKED | LES        |
| APPROVED | LES | DATE    | 26/03/2020 |

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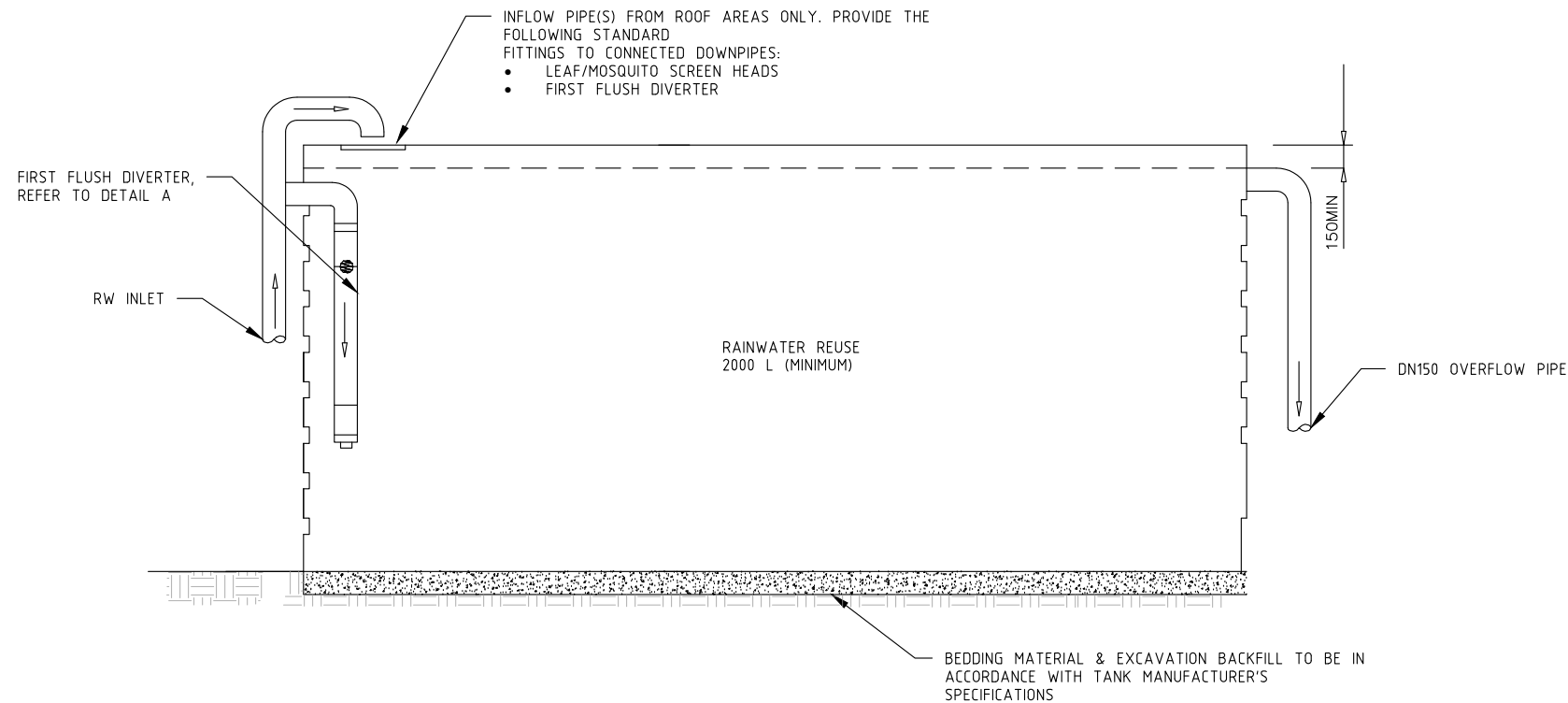
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AS3500.3:2018

49 FOREST WAY, FRENCHS FOREST

LEVEL 1 & ROOF LAYOUT

|      |    |        |                   |         |        |      |   |
|------|----|--------|-------------------|---------|--------|------|---|
| Size | A3 | Status | FOR DA SUBMISSION | Org No. | DR-002 | Rev. | 3 |
|------|----|--------|-------------------|---------|--------|------|---|



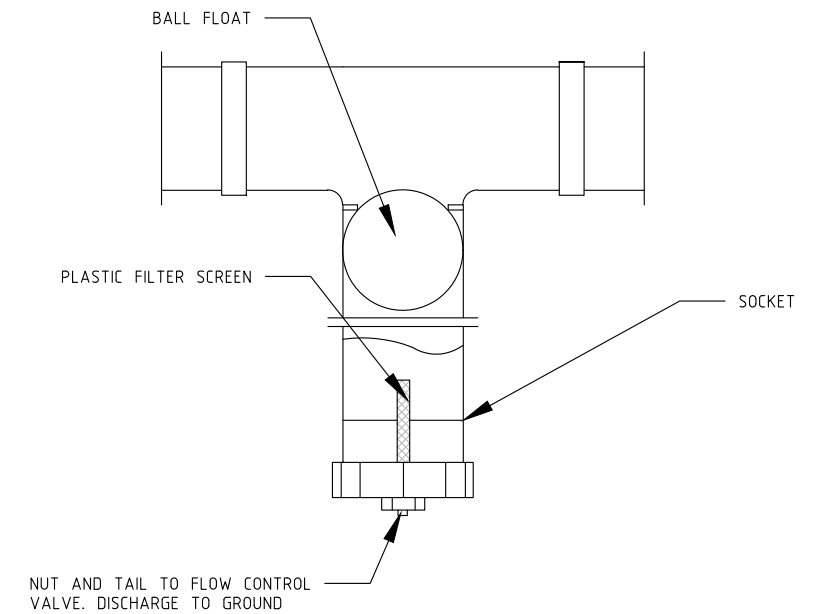
DETAIL  
3

### TYPICAL RAINWATER REUSE TANK ELEVATION

NOT TO SCALE

#### NOTES:

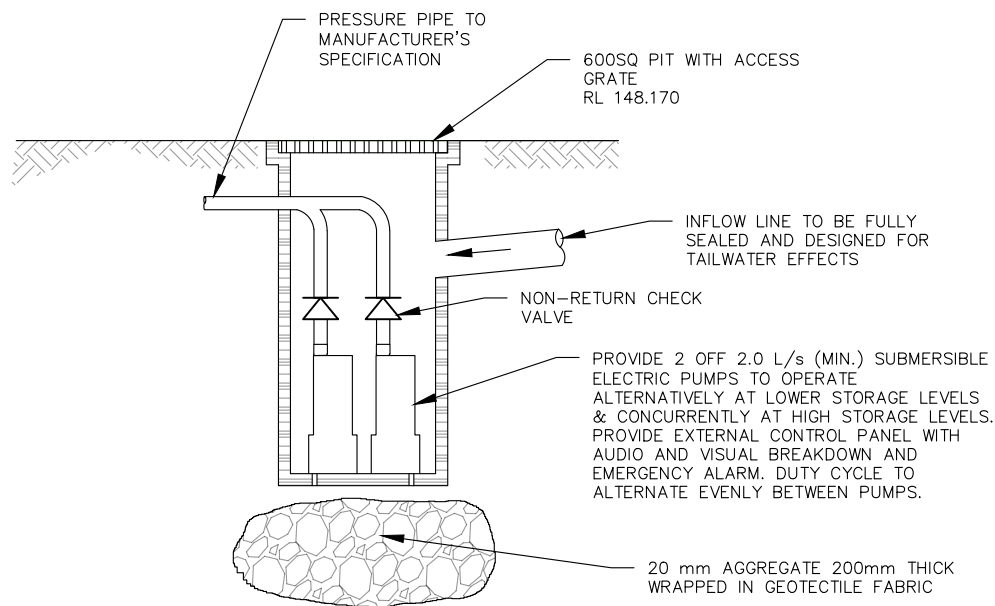
1. RAINWATER TANK TO BE AT LEAST 2000 LITRES.
2. RAINWATER TANK MUST MEET, AND BE INSTALLED IN ACCORDANCE WITH, THE REQUIREMENTS OF ALL APPLICABLE REGULATORY AUTHORITIES.



DETAIL  
A

### FIRST FLUSH DIVERTER

NOT TO SCALE



DETAIL  
4

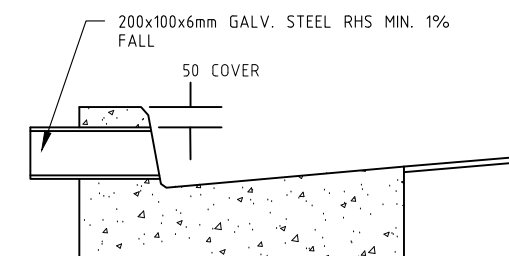
### TYPICAL SUMP PUMP PIT

NOT TO SCALE

#### NOTES:

1. PUMP TO HAVE MINIMUM STATIC HEAD 3m
2. FLOW RATE PER PUMP TO BE MIN 2.0 l/s
3. REFER TO TABLE 2 FOR PUMP SIZING CALCULATIONS.
2. PUMP SIZED TO ACCOMMODATE FOR A 100 YR, 2 HR STORM DURATION.
3. ALL PITS TO BE FITTED WITH HEAVY DUTY GRATE & FRAME (MINIMUM CLASS C).

| TABLE 2 – PUMP DESIGN TO AS3500 |                               |   |
|---------------------------------|-------------------------------|---|
| AREA TO PUMP                    | 64 m <sup>2</sup>             |   |
| DESIGN ARI                      | 100 Year                      |   |
| STORM PERIOD (T)                | 120 min                       |   |
| RAINFALL INTENSITY (I)          | 51.00 mm/hr                   |   |
| RUNOFF COEF. (C)                | 0.90                          |   |
| AJUSTED INTENSITY Q = C x I     | 45.90 mm/hr                   |   |
| VOLUME V = Q x T x I            | 5.87 m <sup>3</sup>           |   |
| PUMP CAPACITY CHECK             |                               |   |
| PUMP CAPACITY (l/s)             | PUMP VOLUME (m <sup>3</sup> ) | REQUIRED STORAGE VOLUME (m <sup>3</sup> ) |
| 4.00                            | 7.20                          | −1.32                                     |
| 2.00                            | 3.60                          | 2.28                                      |
| 1.50                            | 2.70                          | 3.18                                      |



DETAIL  
5

### TYPICAL KERB CONNECTION

NOT TO SCALE

NOT FOR CONSTRUCTION

| REVISIONS |     |            |                   |      |
|-----------|-----|------------|-------------------|------|
| No.       | BY  | DATE       | DESCRIPTION       | APPD |
| 3         | MAI | 26/03/2020 | DA SUBMISSION     | LES  |
| 2         | MAI | 31/01/2020 | PRE-DA            | LES  |
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| 0         | YYA | 19/06/2019 | DRAFT             | SSD  |

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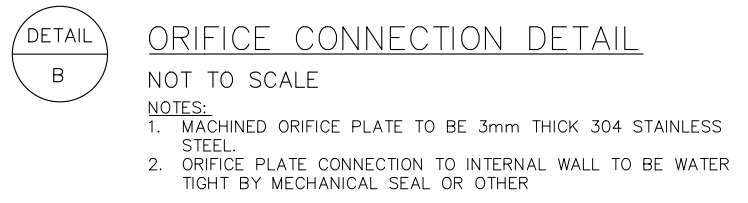
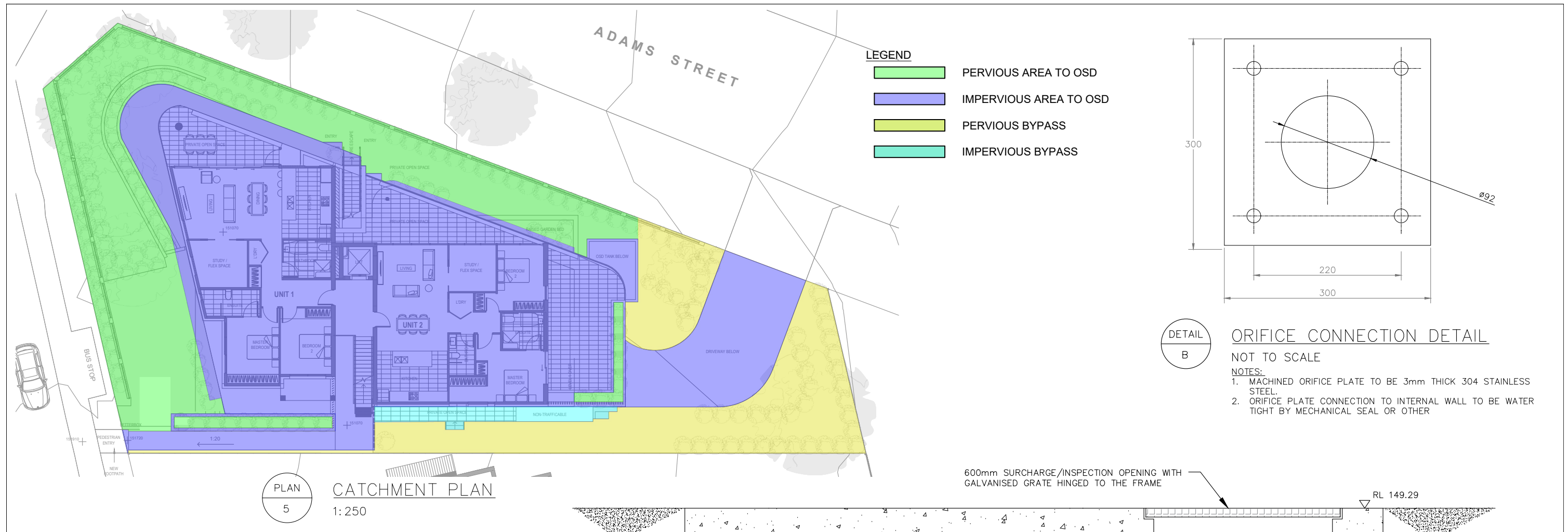
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49 FOREST WAY, FRENCHS FOREST

RAINWATER TANK & PIT DETAILS

| Size | Status            | Drwg No. | Rev. |
|------|-------------------|----------|------|
| A3   | FOR DA SUBMISSION | DR-003   | 3    |

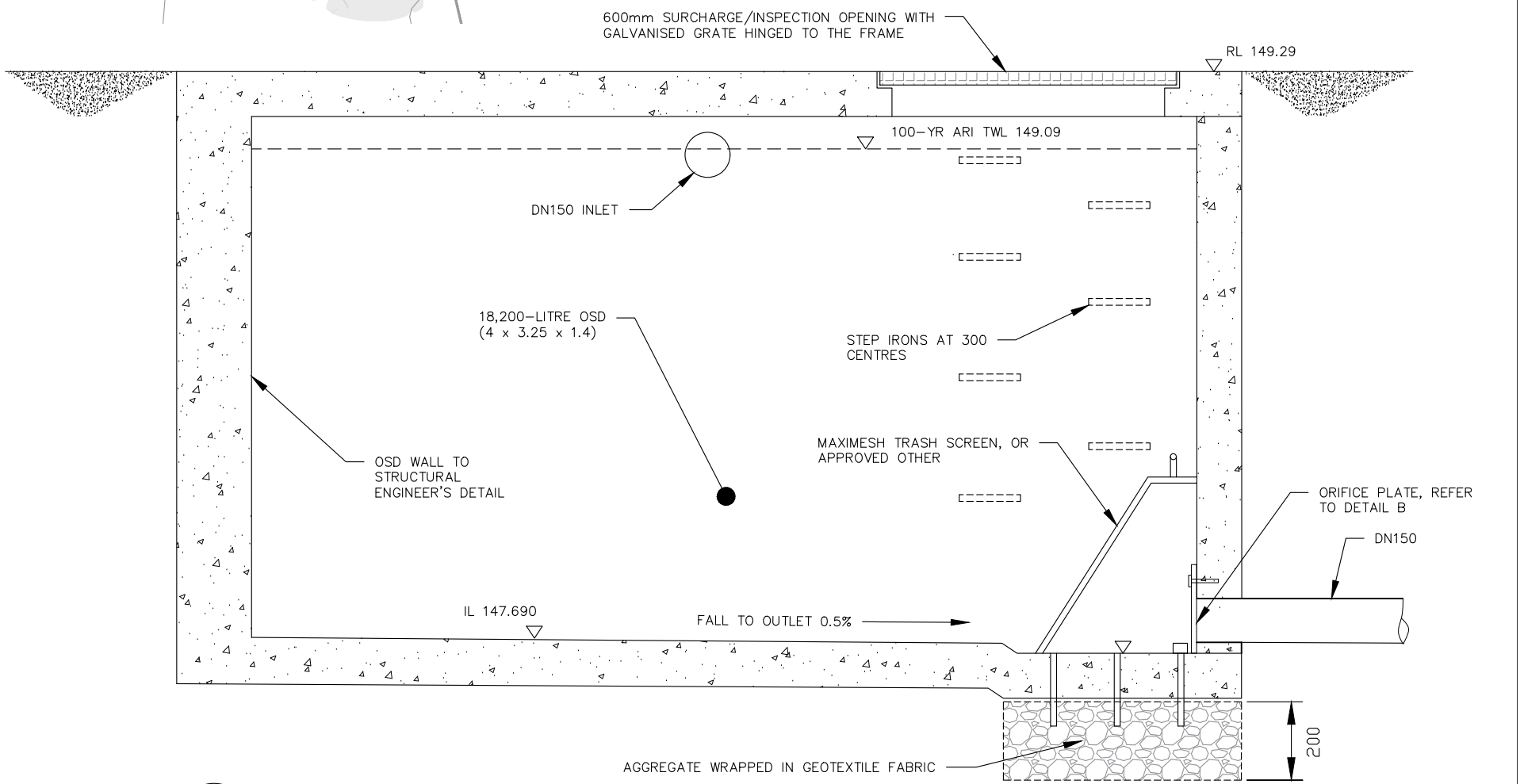




| TABLE 2 – POST DEVELOPMENT FLOWS |                       |                   |                 |                   |                  |             |
|----------------------------------|-----------------------|-------------------|-----------------|-------------------|------------------|-------------|
| ARI                              | STATE OF NATURE (l/s) | OSD FLOW (l/s)    |                 | BYPASS FLOW (l/s) |                  | TOTAL (l/s) |
|                                  | 100% PERVIOUS 923 m²  | IMPERVIOUS 522 m² | PERVIOUS 242 m² | PERVIOUS 144 m²   | IMPERVIOUS 15 m² |             |
| 5 YEAR                           | 16                    | 12                |                 | 4                 |                  | 16          |
| 20 YEAR                          | 32                    | 16                |                 | 6                 |                  | 22          |
| 100 YEAR                         | 47                    | 20                |                 | 10                |                  | 30          |

OSD TECHNICAL REQUIREMENTS FOR FLOWS

1. PSD CALCULATED FROM THE "STATE OF NATURE" CASE (100% PERVIOUS SITE).
2. REFER TO PLAN 5 FOR CATCHMENT AREAS.



**DETAIL 6**

**REINFORCED CONCRETE OSD SECTION AND SCHEMATIC**

NOT TO SCALE

NOT FOR CONSTRUCTION