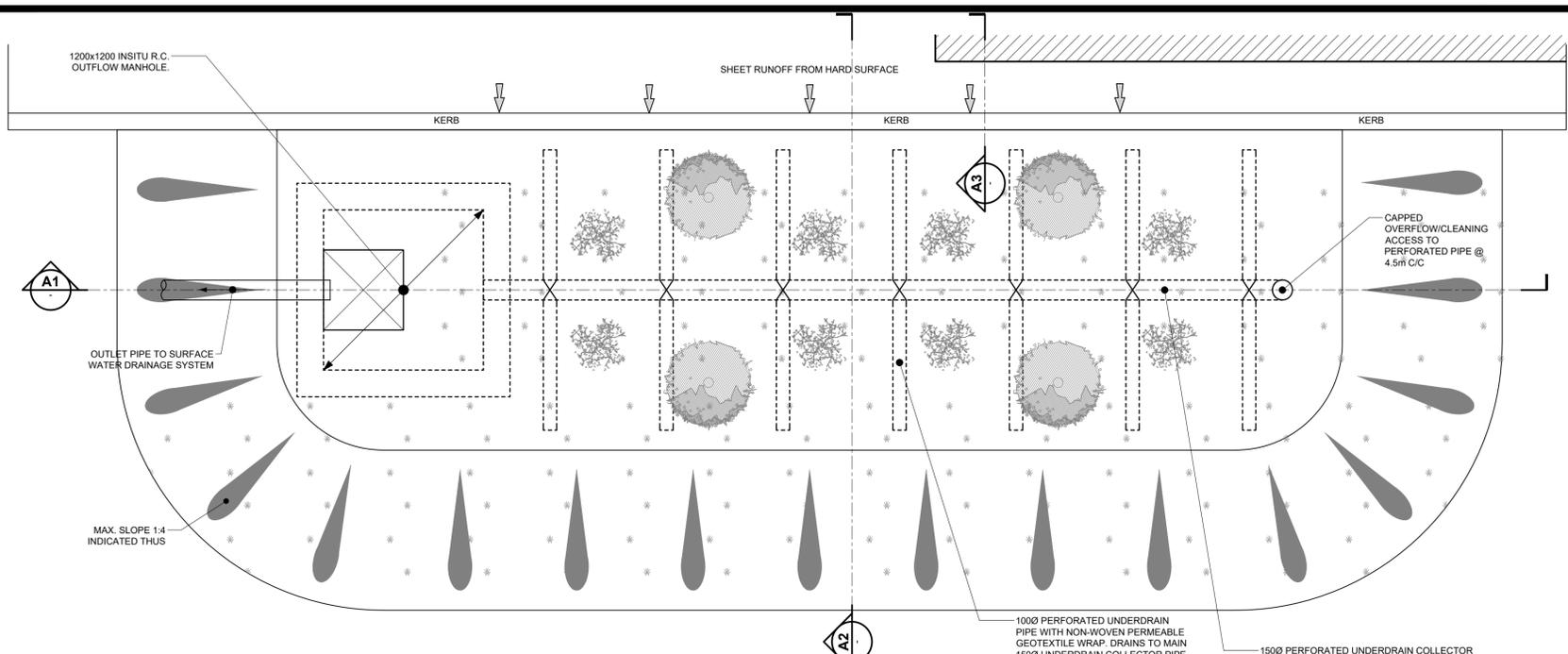


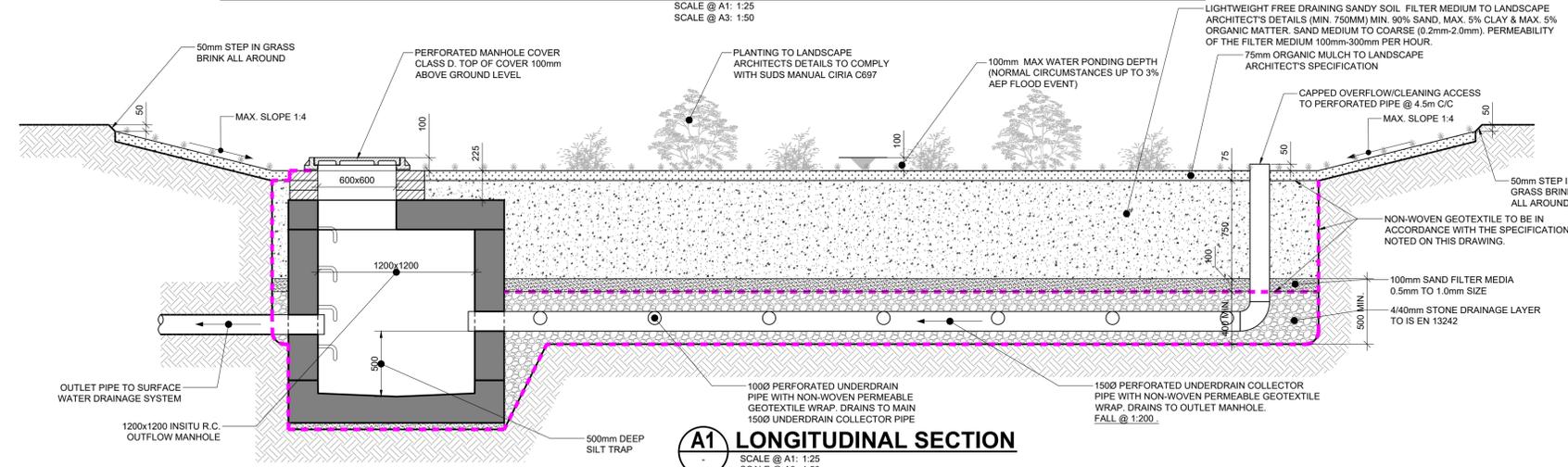
NOTES

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL ENGINEERS & ARCHITECTS DRAWINGS FIGURED DIMENSIONS ONLY (NOT SCALING) TO BE USED. WHERE A CONFLICT OF INFORMATION EXISTS OR IF IN ANY DOUBT - 'ASK'.
2. CONSULTANTS TO BE INFORMED IMMEDIATELY OF ANY DISCREPANCIES BEFORE WORK PROCEEDS.



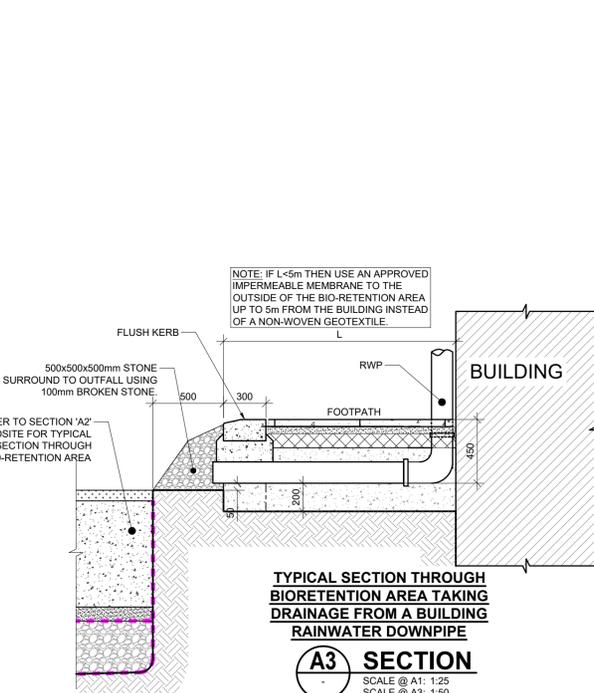
TYPICAL PLAN DETAIL OF BIO-RETENTION AREA FOR SURFACE WATER MANAGEMENT

SCALE @ A1: 1:25
SCALE @ A3: 1:50



A1 LONGITUDINAL SECTION

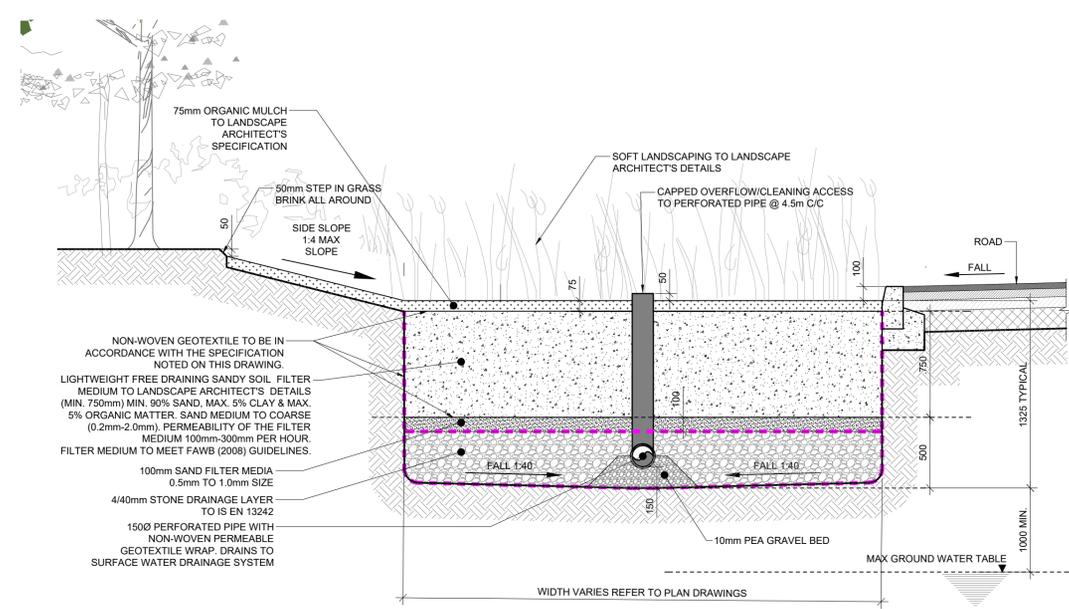
SCALE @ A1: 1:25
SCALE @ A3: 1:50



TYPICAL SECTION THROUGH BIORETENTION AREA TAKING DRAINAGE FROM A BUILDING RAINWATER DOWNPIPE

A3 SECTION

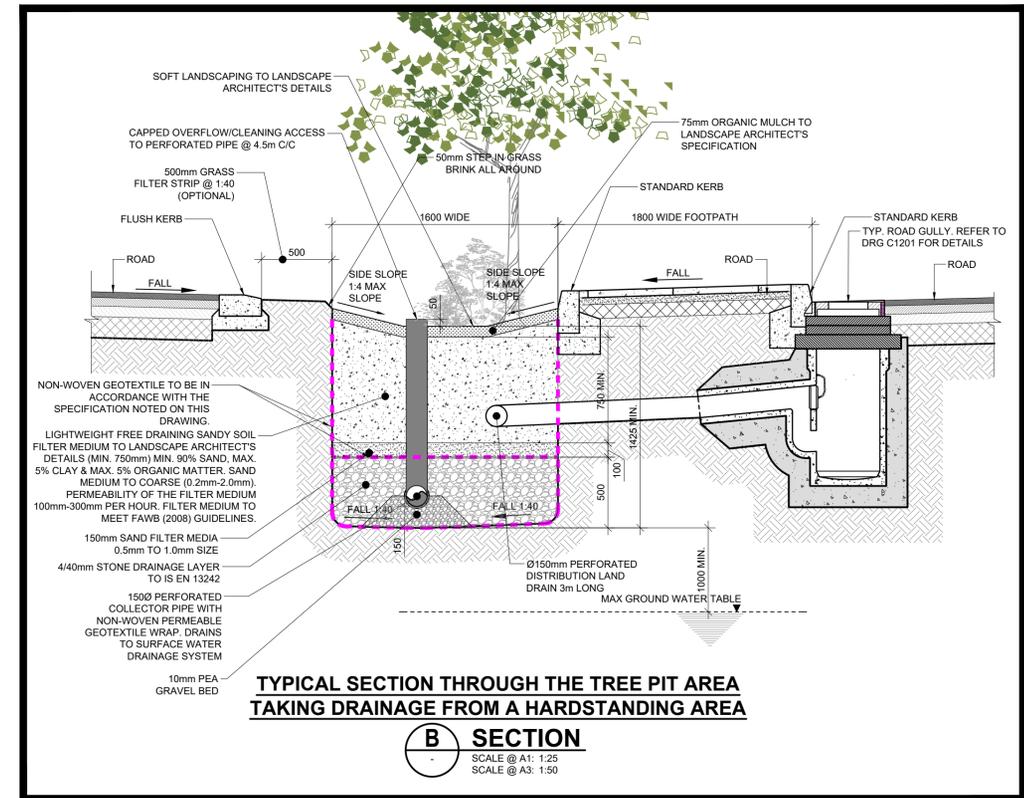
SCALE @ A1: 1:25
SCALE @ A3: 1:50



TYPICAL SECTION THROUGH BIORETENTION AREA TAKING DRAINAGE FROM A HARDSTANDING AREA

A2 SECTION

SCALE @ A1: 1:25
SCALE @ A3: 1:50



TYPICAL SECTION THROUGH THE TREE PIT AREA TAKING DRAINAGE FROM A HARDSTANDING AREA

B SECTION

SCALE @ A1: 1:25
SCALE @ A3: 1:50

MAINTENANCE REQUIREMENTS FOR BIORETENTION SYSTEMS & TREE PITS

- REGULAR INSPECTIONS**
INSPECT INFILTRATION SURFACES FOR SILTING AND PONDING, RECORD DE-WATERING TIME OF THE FACILITY AND ASSESS STANDING WATER LEVELS IN UNDERDRAIN (IF APPROPRIATE) TO DETERMINE IF MAINTENANCE IS NECESSARY. FREQUENCY - QUARTERLY
CHECK OPERATION OF UNDERDRAINS BY INSPECTION OF FLOWS AFTER RAIN. FREQUENCY - ANNUALLY
ASSESS PLANTS FOR DISEASE INFECTION, POOR GROWTH, INVASIVE SPECIES ETC AND REPLACE AS NECESSARY. FREQUENCY - QUARTERLY
INSPECT INLETS AND OUTLETS FOR BLOCKAGE. FREQUENCY - QUARTERLY
- REGULAR MAINTENANCE**
REMOVE LITTER AND SURFACE DEBRIS AND WEEDS. FREQUENCY - QUARTERLY (OR MORE FREQUENTLY FOR TIDINESS OR AESTHETIC REASONS)
REPLACE ANY PLANTS, TO MAINTAIN PLANTING DENSITY. FREQUENCY - AS REQUIRED
REMOVE SEDIMENT, LITTER AND DEBRIS BUILD-UP FROM AROUND INLETS OR FROM FOREBAYS. FREQUENCY - QUARTERLY TO BIANNUALLY
INFILL ANY HOLES OR SCOUR IN THE FILTER MEDIUM, IMPROVE EROSION PROTECTION IF REQUIRED. FREQUENCY - AS REQUIRED
REPAIR MINOR ACCUMULATIONS OF SILT BY RAKING AWAY SURFACE MULCH, SCARIFYING SURFACE OF MEDIUM AND REPLACING MULCH. FREQUENCY - AS REQUIRED
- REMEDIAL ACTIONS**
REMOVE AND REPLACE FILTER MEDIUM AND VEGETATION ABOVE. FREQUENCY - AS REQUIRED BUT LIKELY TO BE > 20 YEARS

ROOTSPACE SUPPORT STRUCTURE UNDER COVERED / GRILLED TREE PITS.

IN ALL COVERED COVERED / GRILLED TREE PITS AND IN ALL INSTANCES WHERE THE TREE PIT SOIL EXTENDS BENEATH THE FOOTPATH / PAVEMENT, A PROPRIETARY ROOTSPACE PAVEMENT SUPPORT SYSTEM BY GREENLEAF IRELAND, OR EQUAL APPROVED, SHALL BE INTEGRATED ACROSS THE FULL EXTENT OF THE TREE PIT. REFER TO LANDSCAPE ARCHITECTS DRAWING FOR TREE PIT SOIL EXTENTS.

NOTES:

1. NON-WOVEN GEOTEXTILE SPECIFICATION. THE GEOTEXTILE SHALL:
 - SUSTAIN A TENSILE LOAD OF NOT LESS THAN 5.0kN/m AT BREAK AND HAVE A MINIMUM FAILURE STRAIN OF 10%
 - WHEN DETERMINED IN ACCORDANCE WITH IS EN ISO 10319;
 - HAVE A MINIMUM PUNCTURE RESISTANCE OF 1200 N WHEN DETERMINED IN ACCORDANCE WITH IS EN ISO 12236;
 - HAVE A SIZE DISTRIBUTION OF PORE OPENINGS SUCH THAT THE APPARENT OPENING SIZE 090 WHEN DETERMINED IN ACCORDANCE WITH IS EN ISO 12956, OR OTHER APPROPRIATE TEST, IS LESS THAN 300 MICRONS
 - ALLOW WATER TO FLOW THROUGH IT, IN EITHER DIRECTION, NORMAL TO ITS PRINCIPAL PLANE AT A RATE OF NOT LESS THAN 10 l/m²/s, UNDER A CONSTANT HEAD OF WATER OF 100mm AND A MAXIMUM BREAKTHROUGH HEAD OF 50MM WHEN DETERMINED IN ACCORDANCE WITH IS EN ISO 12958.
2. PLAN AREA OF THE BIO-RETENTION AREA SHOULD BE 2-4% OF THE OVERALL AREA DRAINED. MAXIMUM WIDTH 10m UNLESS NOTED OTHERWISE.

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PLANNING

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SuDS DETAILS. TYPICAL BIO-RETENTION AREA & TREE PIT DETAILS

DRAWING No. DCD-BMD-00-00-DR-C-1209	ISSUE PL4
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