

BASEMENT - STORMWATER DRAINAGE PLAN

SCALE 1:200

CONCEPT SUMMARY

THE PROPOSED DEVELOPMENT OF NO 990 HUNTER STREET, NEWCASTLE WEST INVOLVES THE DEMOLITION OF THE EXISTING BUILDINGS AND THE CONSTRUCTION OF A NEW HIGH-RISE MIXED USE BUILDING.

THE PHILOSOPHY OF STORMWATER MANAGEMENT ON SITE CAN BE SUMMARISED AS FOLLOWS:

- THE DEVELOPMENT WILL INCREASE THE IMPERVIOUS AREAS ON THE SITE TO 100%. AS SUCH, A NEW OSD TANK, DESIGNED IN ACCORDANCE WITH NCC GUIDELINES, WILL BE IMPLEMENTED TO MITIGATE PEAK FLOWS LEAVING THE SITE. THE OSD TANK WILL ALSO INCORPORATE A NEW SAND FILTER IN ORDER TO TREAT RUNOFF TO AN ACCEPTABLE LEVEL BEFORE IT LEAVES THE SITE. REFER BELOW FOR CALCULATIONS.
- RUNOFF FROM THE PROPOSED ROOF AND EXTERNAL COMMUNAL AREAS WILL BE COLLECTED IN A SERIES OF PITS AND PIPED TO THE NEW OSD TANK LOCATED IN THE BASEMENT CARPARK.
- OVERFLOW FROM THE OSD TANK WILL BE DIRECTED TO THE BASEMENT DRAINAGE NETWORK.
- A SERIES OF FLOOR WASTES WILL BE INSTALLED IN THE SUSPENDED CARPARK LEVELS TO COLLECT INDIRECT RUNOFF. THESE FLOOR WASTES WILL BE CONVEYED DIRECTLY TO THE BASEMENT DRAINAGE NETWORK.
- ALL RUNOFF CONVEYED TO THE BASEMENT NETWORK WILL BE CONNECTED DIRECTLY TO THE EXISTING 300mm DIAM. STORMWATER DRAINAGE LINE LOCATED IN THE EASTERN PORTION OF THE SITE. FLOWS DIRECTED TO THE EXISTING NETWORK WILL BE LESS THAN THE EXISTING DISCHARGE FROM THE SITE DUE TO THE INTRODUCTION OF THE OSD TANK.

A FLOODING CERTIFICATE WAS ALSO OBTAINED FROM COUNCIL FOR THE SUBJECT SITE. THE FLOODING CERTIFICATE IDENTIFIED THAT THE Q100 = 2.80m AHD AND THE PMF = 5.80m AHD. AS SUCH, THE DEVELOPMENT WAS DESIGNED SO THAT:

- THE ENTRY TO THE BUILDING WAS ABOVE THE PMF,
- THE BASEMENT CARPARK HAD A MAXIMUM OF 300mm OF PONDING DURING THE Q100, AND
- THE INVERT OF THE OSD/STORAGE TANK WAS ABOVE THE Q100.

STORMWATER CALCULATIONS

SITE AREAS = 1,052 m²
% IMPERVIOUS = 100%
IN ACCORDANCE WITH NCC GUIDELINES
VOLUME RETENTION REQUIRE / IMPERVIOUS m² = 25 mm
TOTAL RETENTION VOLUME REQUIRED = 1,052 x 0.025 = 26.3 m³
SAND FILTER 0.8m²/100m² = 0.8 x 10.52 = 8.42 m³

PRE - POST OSD VOLUME CALCULATION.

$$Q_{100}^{5MIN} = 12 \times 0.9 \times 236 \times 1057 = 68.96 \text{ L/S}$$

TOTAL VOLUME OF RUNOFF DURING 100 YEARS 5 MIN. STORM EVENT

$$V_{100}^{5MIN} = 68.96 \times 5MIN \times 60 = 20.7 \text{ m}^3$$

RETENTION/ STORAGE VOLUME AS PER NCC GUIDELINES MEET OSD REQUIREMENTS.

NOTE: RUNOFF TO DOWNSTREAM SYSTEM LESS THAN EXISTING RUNOFF. EXISTING SYSTEM WILL ADEQUATELY CONVEY NEW FLOWS.

REUSE CALCULATIONS

NO CLEAN ROOF WATER FOR INTERNAL REUSE, ALLOW ADDITIONAL STORAGE CAPACITY FOR IRRIGATION OF LANDSCAPING AREAS.
ADDITIONAL STORAGE = 26.3 - 20.7 = 5.6 m³

OSH VOLUME = 5.6 m³
OSD VOLUME = 21.4 m³
OSD SAND FILTER SA = 8.8 m³

LEGEND

- 5.00 — EXISTING CONTOUR
- RL 2.40 — DESIGN SPOTLEVEL
- + 5.55 EXISTING SPOTLEVEL
- ☒ DENOTES NEW SURFACE INLET PIT, REFER TO PLAN FOR DETAILS
- NEW U.P.V.C. STORMWATER DRAINAGE PIPE (SIZE AS SHOWN ON PLAN) LAID AT 1.0% MIN. FALL (UNO) TO OUTLET IN ACCORDANCE WITH COUNCILS SPECIFICATIONS
- NEW CONCRETE ENCASED PIPE, (SIZE AS SHOWN ON PLAN) LAID AT 0.5% MIN. FALL (UNO) TO OUTLET IN ACCORDANCE WITH COUNCILS SPECIFICATIONS
- — — APPROXIMATE POSITION OF EXISTING STORMWATER DRAINAGE PIPE
- ▲ dp DENOTES DOWNPIPE
- DIRECTION OF SURFACE FALL
- — — BOUNDARY LINE
- / — EXISTING FENCE
- — — EXISTING SEWER SERVICE
- ⊕ EXISTING POWER POLE
- ⊗ EXISTING GAS METER
- ⊗ EXISTING TELECOMMUNICATIONS PIT
- ⊗ EXISTING STOP VALVE
- ⊗ EXISTING SEWER INSPECTION POINT
- ⊗ EXISTING BOLLARD
- ⊗ EXISTING TREE

NOTES

THE POSITION OF ALL EXISTING SERVICES SHOWN SHOULD BE REGARDED AS APPROXIMATE ONLY AND NOT NECESSARILY COMPREHENSIVE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT SERVICE LOCATIONS AND INFORM ALL AUTHORITIES PRIOR TO ANY EXCAVATION.

DURING CONSTRUCTION, THE STRUCTURE SHALL BE MAINTAINED IN A STABLE CONDITION AND NO PART OF THE STRUCTURE SHALL BE OVER-STRESSED. TEMPORARY STRUCTURES, FORMWORK, FALSEWORK, TEMPORARY BRACING, SHORING AND THE LIKE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

ALL HANDRAILS, IF REQUIRED, ARE TO ARCHITECT'S LOCATION AND DETAILS AND SHALL COMPLY WITH AS1684.

BENCHMARKS TO BE PROVIDED PRIOR TO COMMENCEMENT OF CONSTRUCTION.

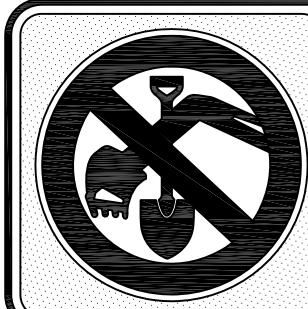
EXISTING CONTOURS ARE SHOWN AT 0.50m INTERVALS.

TREATMENT OF ALL EXPOSED / DISTURBED AREAS TO ARCHITECT'S DETAILS.

DETAIL OF LANDSCAPING IS TO TAKE INTO CONSIDERATION OVERLAND FLOW PATHS.

ALL FENCES ARE TO BE DETAILED WITH 100mm GAP UNDER OR TO BE NON SOLID FENCES TO ALLOW WATER FLOW.

WHERE SITE IS IN CUT ADJACENT TO SITE BOUNDARY, TOP OF RETAINING WALLS TO BE CONSTRUCTED FLUSH WITH EXISTING SURFACE OF NEIGHBORING PROPERTIES TO AVOID IMPOUNDING WATER ON NEIGHBORING PROPERTIES.



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REV	DATE	DRN	CHK	APP	DRAWING STATUS
C	18/08/16	M.B.	M.M.	M.M.	RE-ISSUED FOR DA
B	07/04/16	M.M.	M.M.	M.M.	AMENDED FOR DA SUBMISSION
A	03/03/16	S.Z.	M.M.	M.M.	ISSUED FOR DEVELOPMENT APPLICATION



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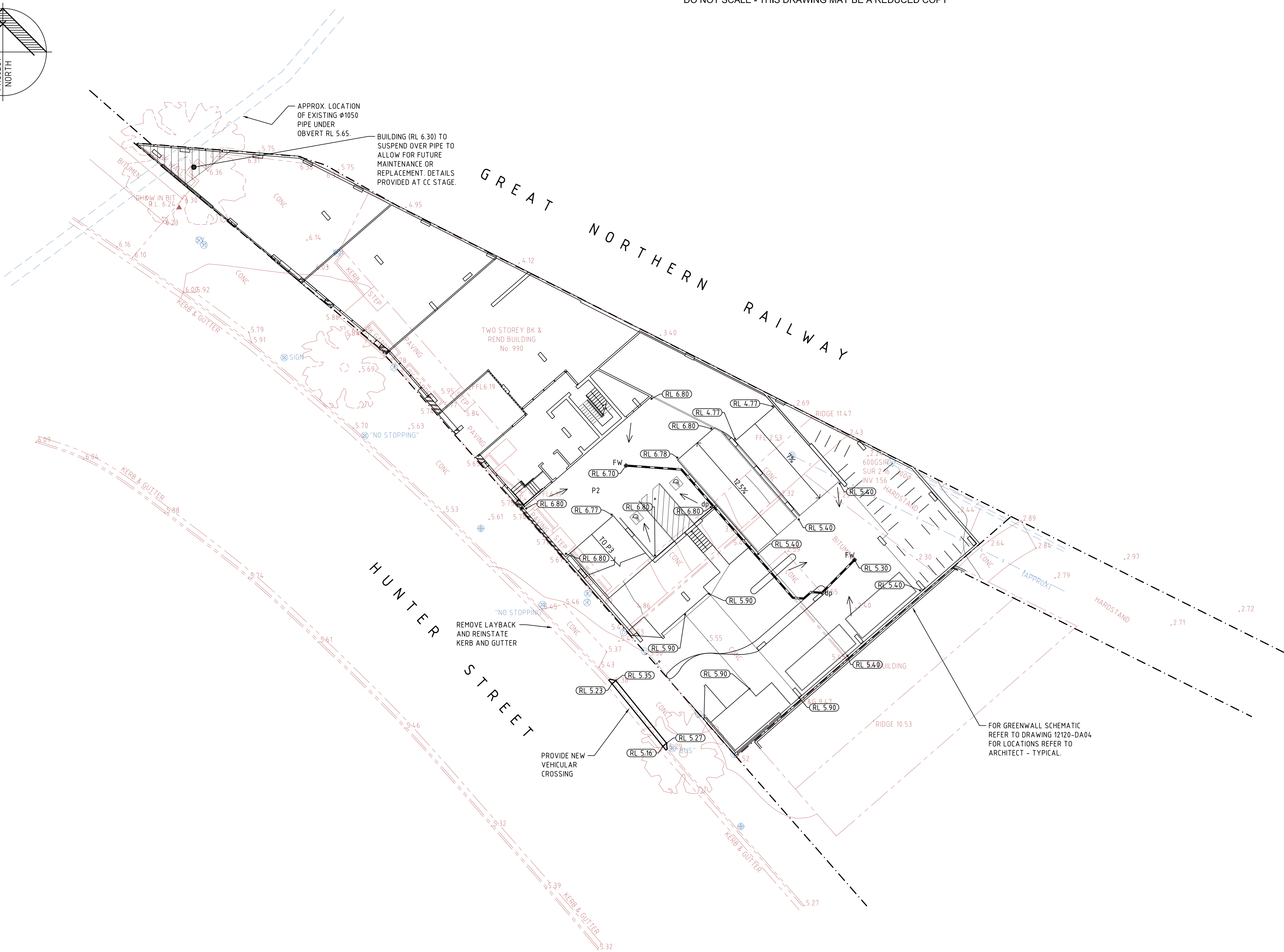
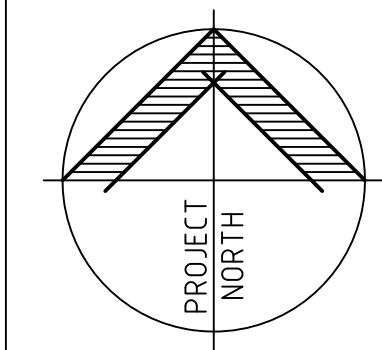
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CLIENT
BRANCOURT NOMINEES PTY LTD

TITLE
**BASEMENT
STORMWATER DRAINAGE PLAN**

PROJECT
**MIXED USE DEVELOPMENT
990 HUNTER STREET
NEWCASTLE WEST, NSW**

DRAWING STATUS			SHEET SIZE	
DRAFT COPY			A1	
DRAFTSMAN S.Z.	DESIGNER M.M.	PROJ MANAGER M.M.	SCALE 1:200	
PROJECT REF No. 12120		DRAWING No. DA01		REVISION C



LEGEND

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- 5.55 EXISTING SPOTLEVEL
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- DIRECTION OF SURFACE FALL
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GROUND FLOOR - STORMWATER DRAINAGE PLAN

SCALE 1:200


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REVISIONS											<div><div>SUSTAINABLE</div><div>180 9001 - 2008</div><div>Endorsed</div><div>Quality</div><div>Management</div><div>System</div></div>	<div><div>CONSULT AUSTRALIA</div></div> <div><p>This drawing is the property of Lindsay Dynan and must not be retained, copied or used without the consent of the company</p><p>Copyright Lindsay Dynan as date of issue</p></div>	<div><div>Lindsay Dynan</div></div> <div>Sydney Perth Newcastle Central Coast</div>	<div>NEWCASTLE</div> <div>5 Newton Street Broadmeadow NSW 2292</div> <div>Phone - 02 4941 9900 Facsimile - 02 4957 7507</div> <div>Email - mail@lindsaydynan.com.au</div> <div>Web - www.lindsaydynan.com.au</div>	CLIENT	BRANCOURT NOMINEES PTY LTD	PROJECT	MIXED USE DEVELOPMENT	990 HUNTER STREET	NEWCASTLE WEST, NSW	DRAWING STATUS			SHEET SIZE
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	S.Z.	M.M.	M.M.	1:200																				
	PROJECT REF No.	DRAWING No.	REVISION																					
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REVISIONS						
	C	18/09/16	M.B.	M.M.	M.M.	RE-ISSUED FOR DA
	B	07/04/16	M.M.	M.M.	M.M.	AMENDED FOR DA SUBMISSION
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REV	DATE	DRN	CHK	APP	DRAWING STATUS	



SUSTAINABLE
BUILDING

- ✓ BS 9001: 2008
- ✓ Envision
- ✓ Quality
- ✓ Management
- ✓ System



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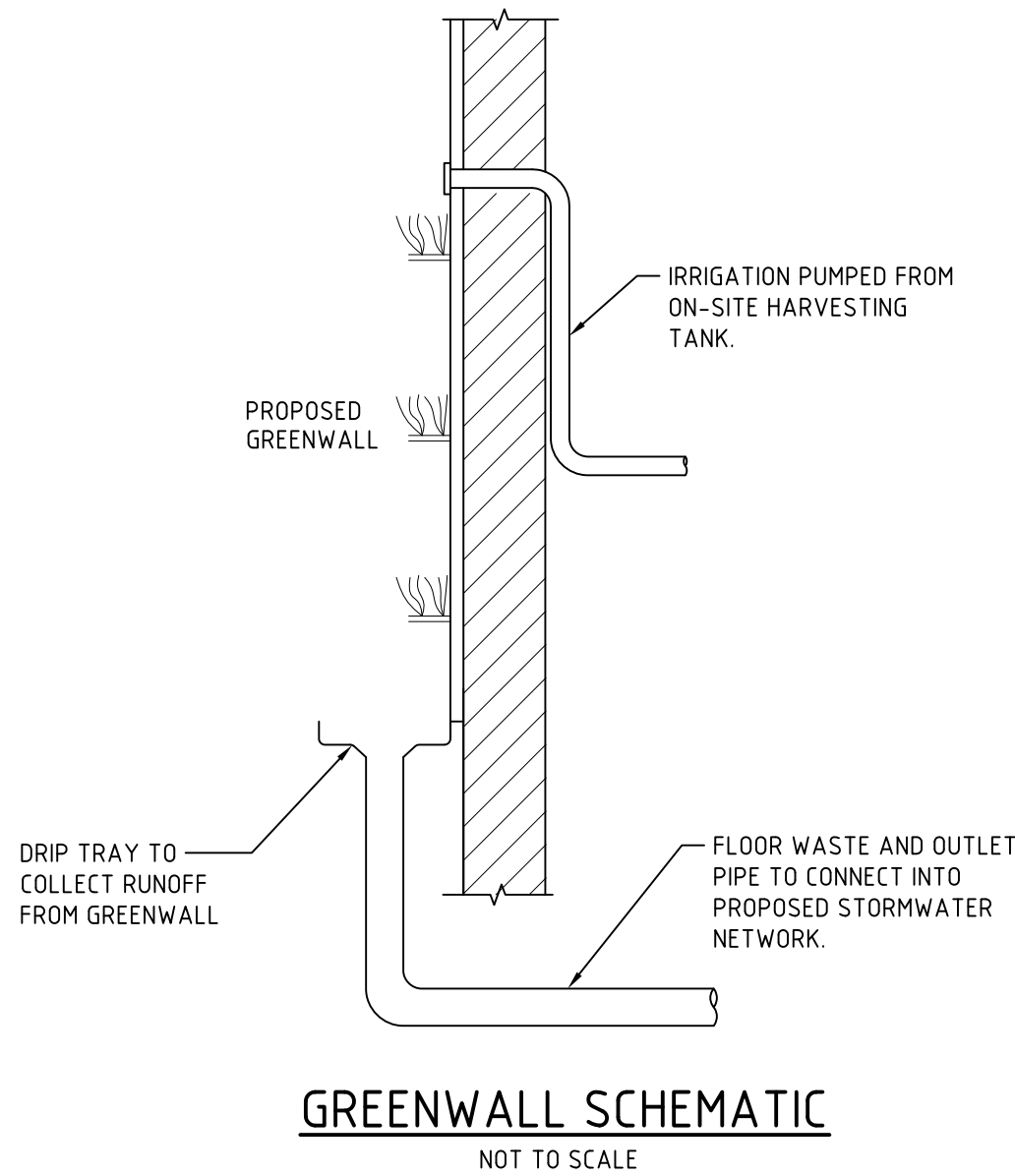
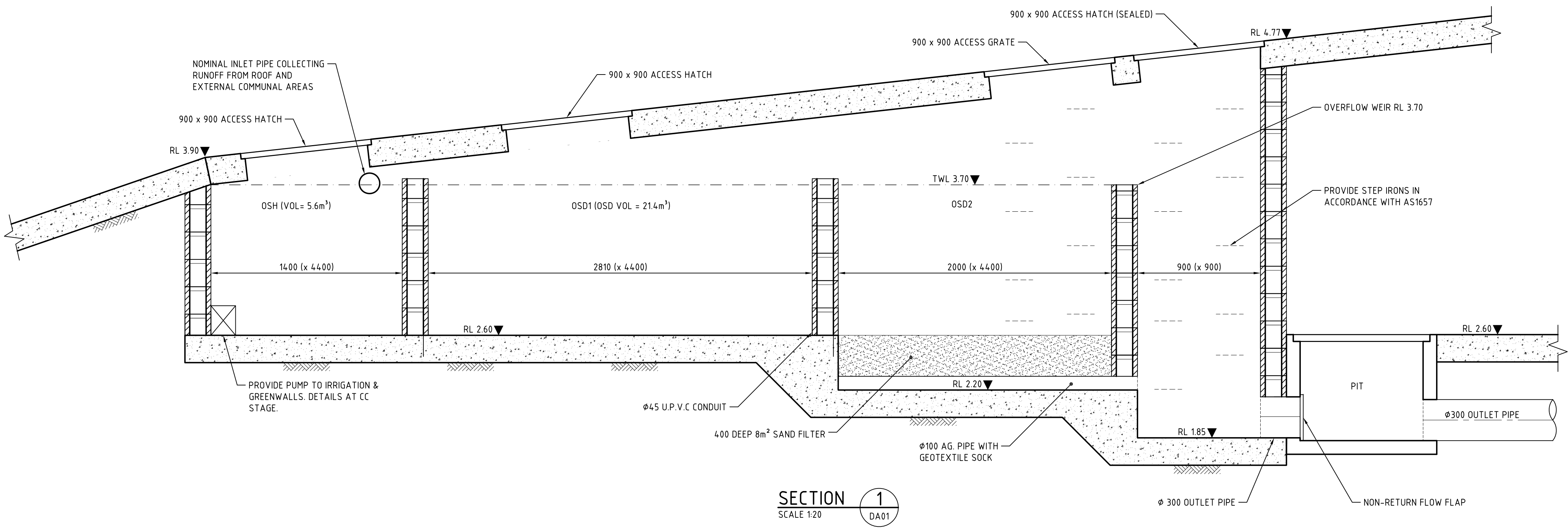


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