50 CONDOVER STREET, NORTH BALGOWLAH Stormwater management plan

DRAWING INDEX:

DR-SW-000 LEGEND

DR-SW-001 PIPE LAYOUT - LOT 1

DR-SW-002 PIPE LAYOUT LOT 2

DR-SW-003 ROOF LAYOUT

DR-SW-004 DETAILS & EASEMENT SECTION

DR-SW-005 OSD DETAILS

DR-SW-006 SITE AREAS

DR-SD-100 SEDIMENT AND EROSION CONTROL PLAN

LEGEND:





NOTES:

- 1. ALL DIMENSIONS TO BE CONFIRMED ON SITE PRIOR TO CONSTRUCTION.
- SITE LAYOUT BASED ON ARCHITECTURAL PLANS BY MCGREGOR COXALL (29/03/2023) AND SURVEY PLANS BY TOTAL SURVEYING SOLUTION TSS (04/05/2021).
- 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.

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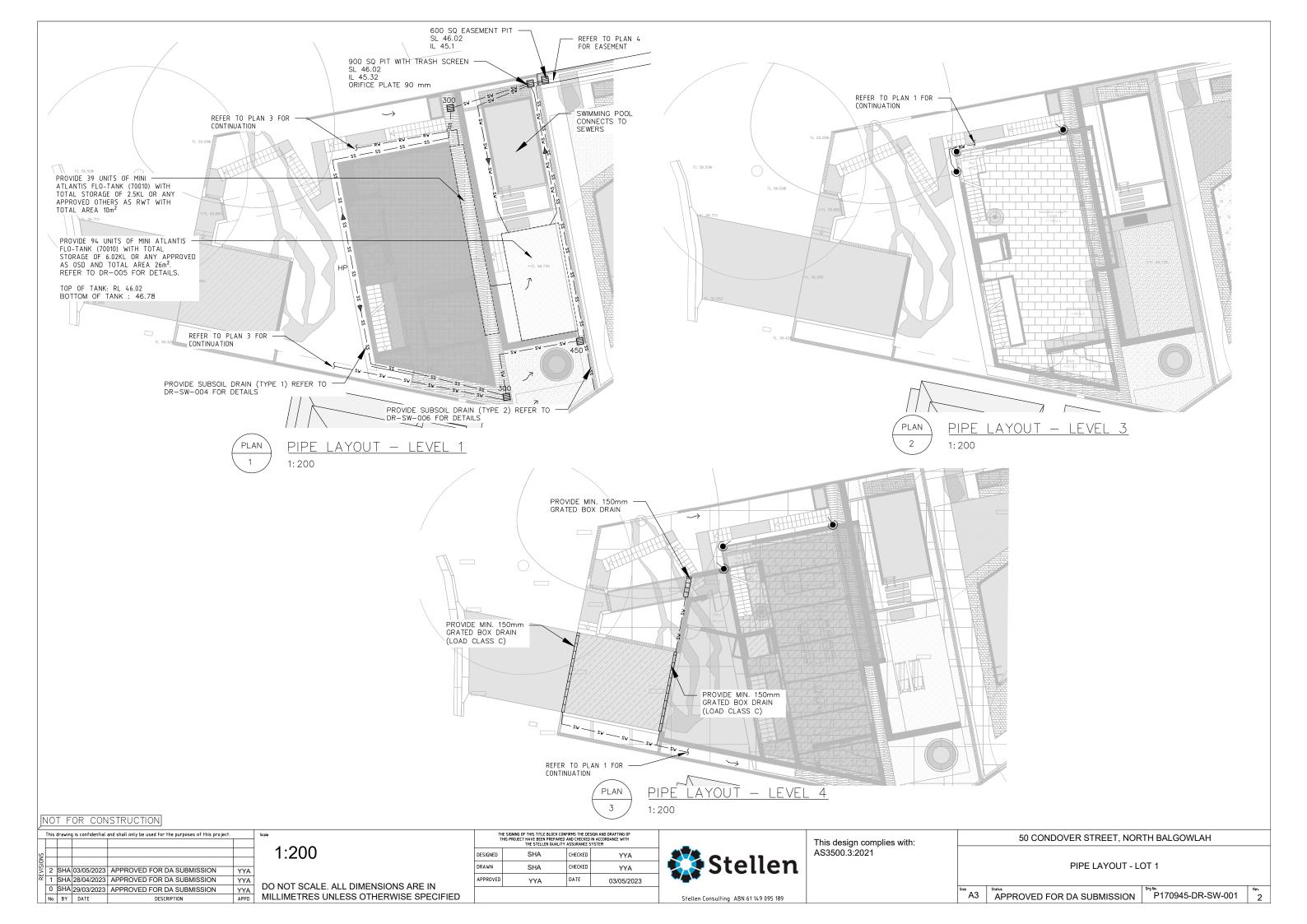
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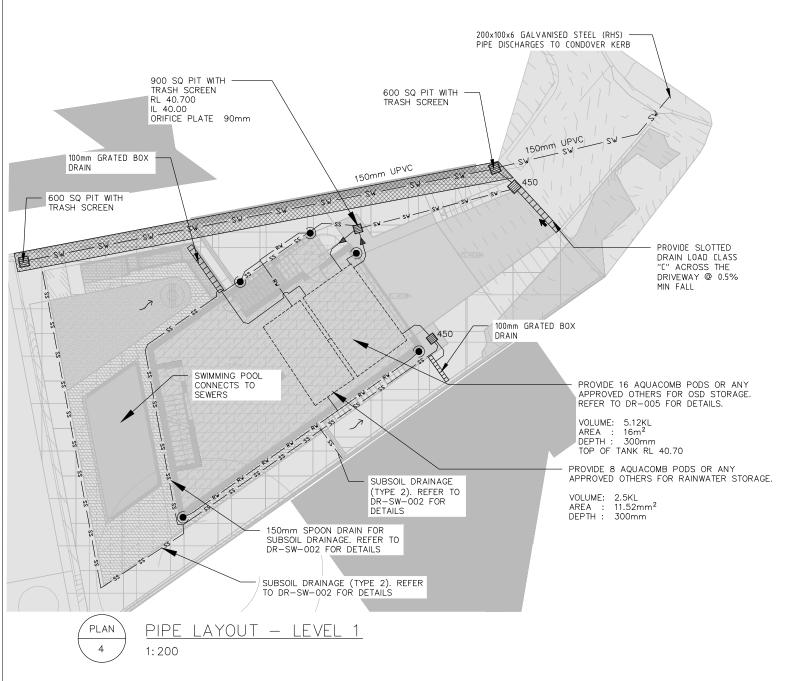


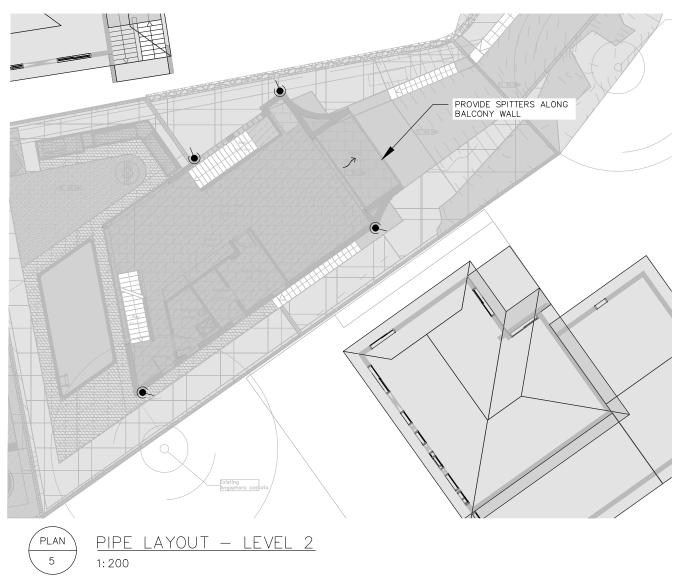
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	50 CONDOVER STREET, NORTH BALGOWLAH							
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50 CONDOVER STREET, NORTH BALGOWLAH									
PIPE LAYOUT - LOT 2									
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NOMENCLATURE
DP - DOWNPIPE
RWH - RAINWATER HEAD
BG - BOX GUTTER
EG - EAVES GUTTER

GUTTER SIZING

EAVE GUTTER DESIGNED TO ARI (20YR:205mm/hr)

BOX GUTTER & RWH DESIGNED TO ARI (200YR:269mm/hr)

BG1 - 200X125mm REFER TO TABLE 3 FOR DETAILS

EG1 - MIN CSA 8,100 mm²

EG2 - MIN CSA 6,900 mm²

LEGEND TYPE

DOWNPIPE TYPE AND DIAMETER

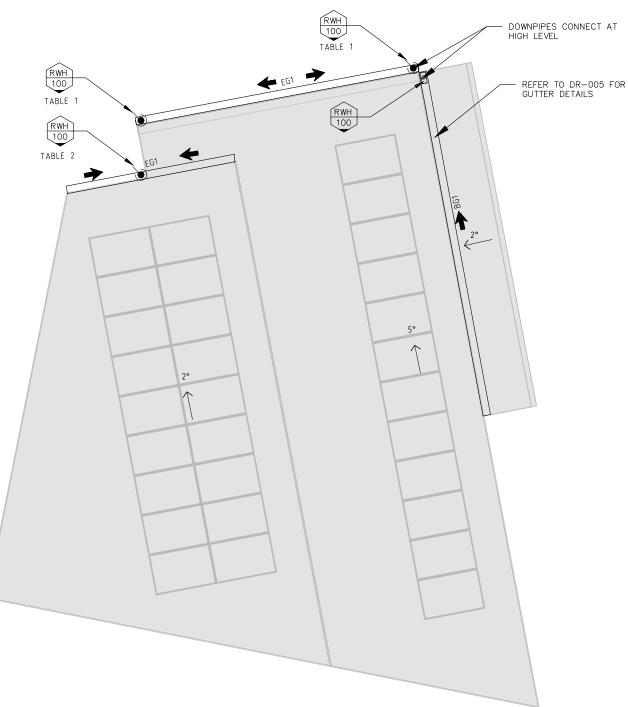
DIRECTION OF FALL

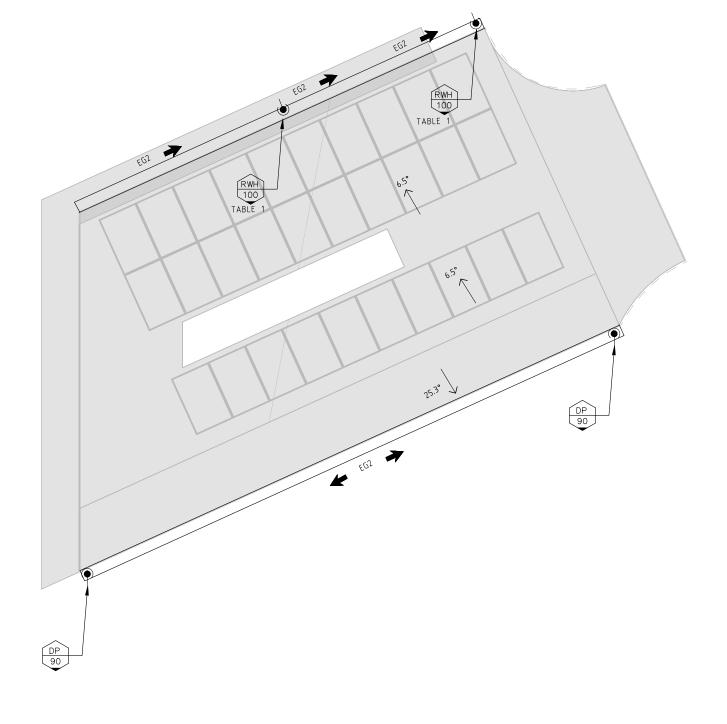
	TABLE 1 ·	- RAIN	I WA	TER H	HEAD	DES	<u>IGN</u>	
	(100	YEAR	ARI,	1:20	O FAL	L)		
_	0501405 1051							-2

(100 12/11 /1111,	. 200 1 /\L	-/
ROOF SERVICE AREA	ı	82m²
DOWNPIPE DIAMETER	DP	100mm
LENGTH OF RAINWATER HEAD	Lr	125mm
RAINWATER HEAD DEPTH	hr	125mm
RAINWATER HEAD WIDTH (MIN)	W_{rh}	200mm

TABLE 2 - RAIN WATER HEAD DESIGN (100 YEAR ARI, 1:200 FALL)

ROOF SERVICE AREA	-	81.5m ²
DOWNPIPE DIAMETER	DP	100mm
LENGTH OF RAINWATER HEAD	Lr	150mm
RAINWATER HEAD DEPTH	hr	145mm
RAINWATER HEAD WIDTH (MIN)	W _{rh}	200mm





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ROOF LAYOUT - LOT 1

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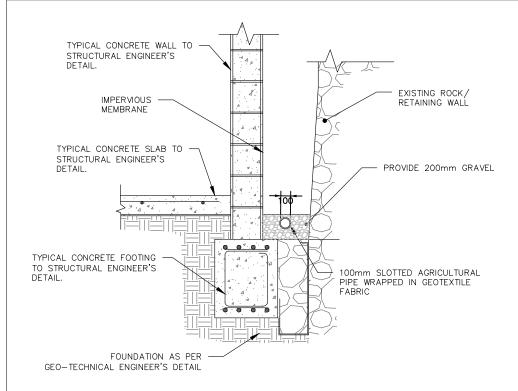
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PLAN

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ROOF LAYOUT - LOT 2



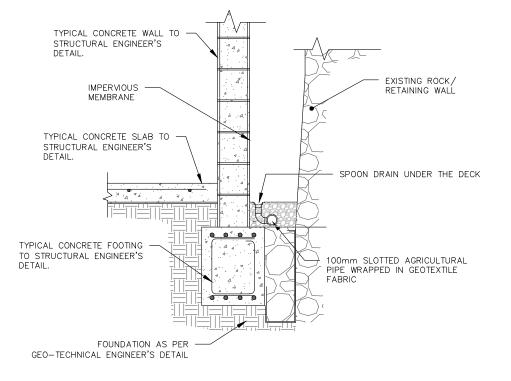
TYPICAL CONCRETE
WALL TO STRUCTURAL
ENGINEER'S DETAIL.

TYPICAL CONCRETE
SLAB TO STRUCTURAL
ENGINEER'S DETAIL.

IMPERVIOUS
MEMBRANE

GEOTEXTILE
FABRIC

100mm SLOTTED
AGRICULTURAL PIPE
WRAPPED IN
GEOTEXTILE FABRIC



TYPICAL SUBSOIL DRAIN (TYPE 1)

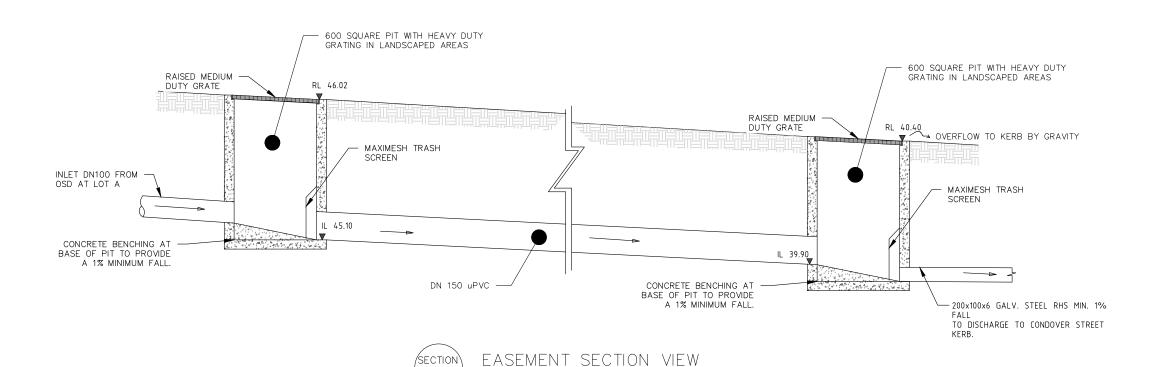
NOT TO SCALE

DETAIL 2

TYPICAL SUBSOIL DRAIN (TYPE 2)
NOT TO SCALE

DETAIL 3

TYPICAL SUBSOIL WITH SPOON DRAIN NOT TO SCALE



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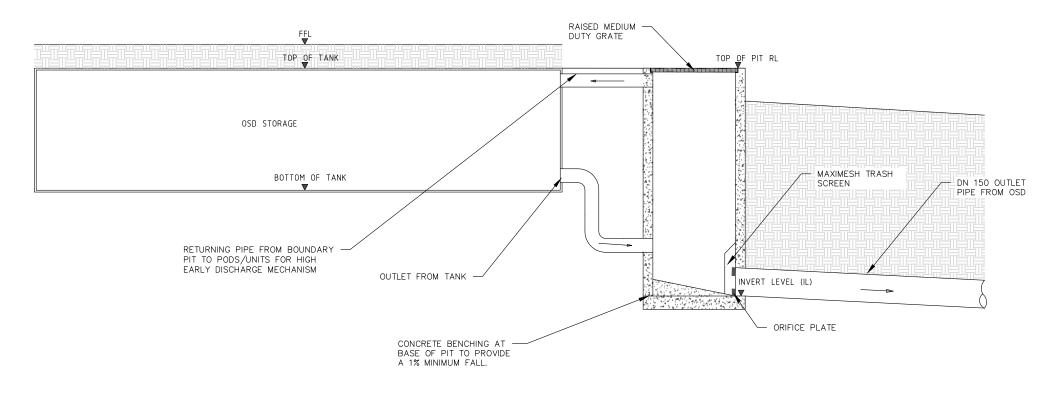
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	DETAILS & EASEMENT	SECTION	
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TYPICAL OSD STORAGE SECTION

NOT TO SCALE

NOTE:

- ALL LEVELS ARE SHOWN IN THE LAYOUT PLAN.

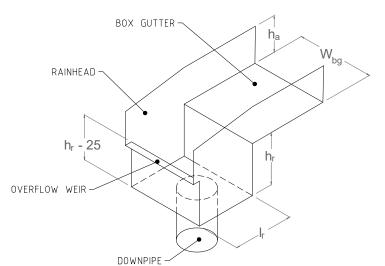


TABLE 3 — RAINWATER HEAD DESIGN (100 YEAR ARI, 1:200 FALL)		
ROOF SERVICE AREA	-	13m²
DOWNPIPE DIAMETER	DP	100mm
BOX GUTTER WIDTH (MIN)	W _{bg}	200mm
BOX GUTTER DEPTH (MIN)	ha	80mm
LENGTH OF RAINWATER HEAD	Lr	120mm
RAINWATER HEAD DEPTH	hr	125mm
RAINWATER HEAD WIDTH (MIN)	W _{rh}	200mm

NOTES:
1. TOP OF RAINWATER HEAD TO BE SET MIN 25mm LOWER THAN INVERT 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.



TYPICAL BOX GUTTER DETAIL

NOT TO SCALE

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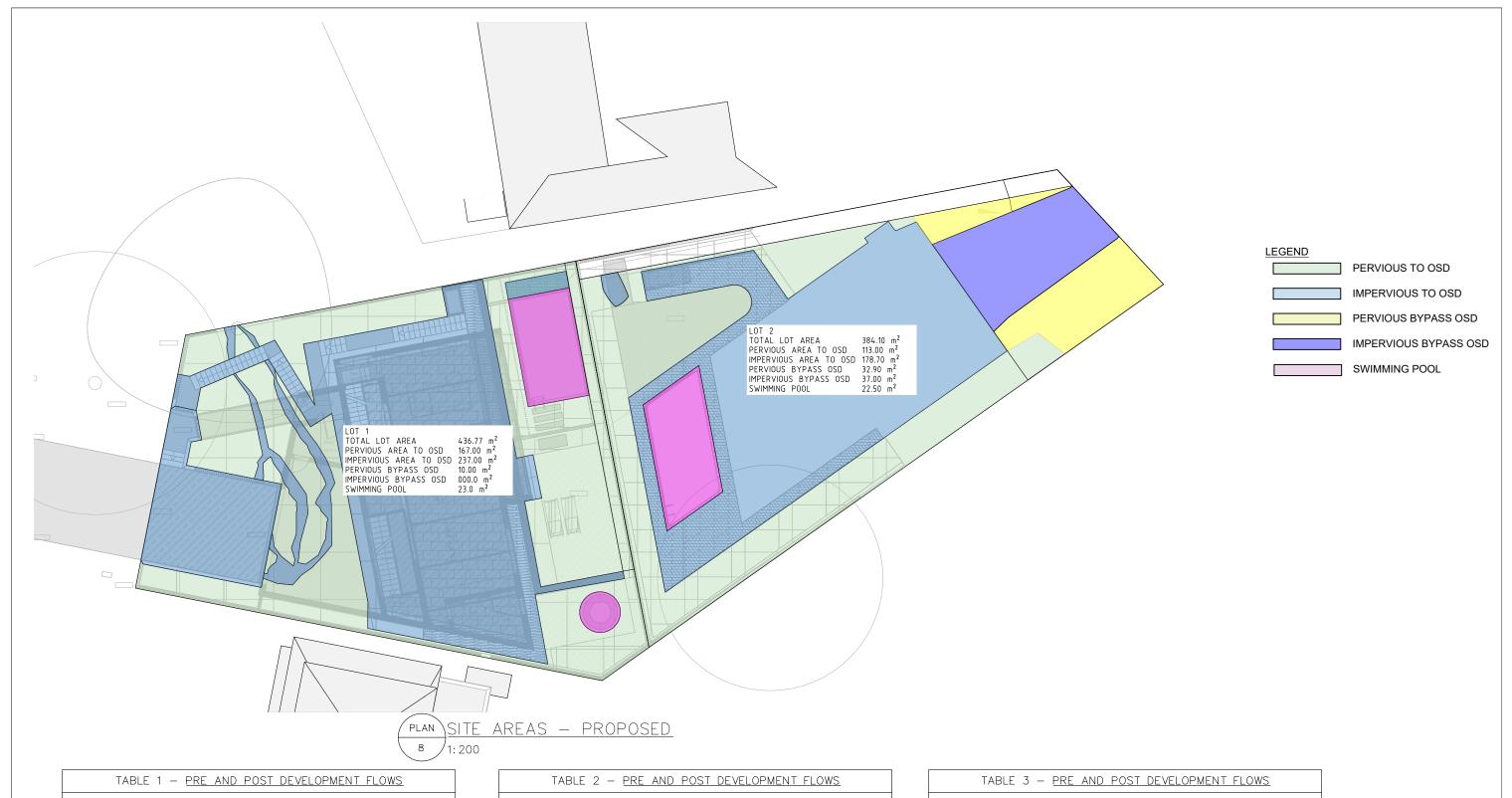
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50 CONDOVER STREET, NORTH BALGOWLAH				
	OSD DETAILS			
Size A3	APPROVED FOR DA SUBMISSION	P170945-DR-SW-005	Rev.	



TA	TABLE 1 - PRE AND POST DEVELOPMENT FLOWS				
LOT 1					
STATE OF ARI NATURE, PSD		POST	DEVELOPED F	LOWS	
	<u>(I/s)</u>	TO OSD	BYPASS	TOTAL	
5 YEAR	12	9	1	10	
20 YEAR	19	10	1	11	
100 YEAR	25	12	2	14	

TA	TABLE 2 — PRE AND POST DEVELOPMENT FLOWS				
LOT 2					
<u>ARI</u>	STATE OF NATURE, PSD	POST DEVELOPED FLOWS (I/s)			
	<u>(I/s)</u>	TO OSD	BYPASS	TOTAL	
5 YEAR	10	5	2	7	
20 YEAR	17	7	3	10	
100 YEAR	23	9	4	13	

TABLE 3 — <u>PRE AND POST DEVELOPMENT FLOWS</u>					
FLOW FROM LOT 1 AND LOT 2 LIMITED TO 301/s					
<u>ARI</u>	PRE DEVELOPMENT FLOW, PSD	POST	DEVELOPED F	FLOWS	
	(I/s)	LOT A	LOT B	TOTAL	
5 YEAR	25	10	7	17	
20 YEAR	39	11	10	21	
100 YEAR	52	14	13	27	

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AS3500.3:2021					
		SITE AREAS			
	Size A3	APPROVED FOR DA SUBMISSION	P170945-DR-SW-006	Rev.	

GENERAL REQUIREMENTS

THE FOLLOWING EROSION AND SEDIMENT CONTROL PLAN 6. USE SANDBAGS, HAY BALES AND/OR GRAVEL FILLED 14. ALL DEDICATED SEDIMENT STORAGE ZONES WITHIN (ESCP) HAS BEEN DEVELOPED IN GENERAL ACCORDANCE WITH LANDCOM (2004) - MANAGING URBAN STORMWATER: SOILS AND CONSTRUCTION, OTHERWISE KNOWN AS "THE BLUE BOOK". THIS PLAN SHOULD ALSO BE READ IN CONJUNCTION WITH MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION (VOLUME 2A INSTALLATION OF SERVICES).

SITE ESTABLISHMENT

PRIOR TO THE COMMENCEMENT OF EARTHWORKS ON THE SITE THE FOLLOWING SHALL BE UNDERTAKEN AS A MINIMUM:

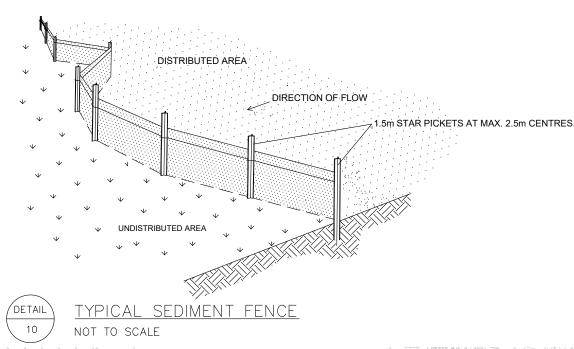
- 1. ERECT SAFETY FENCING WITH SIGNAGE CLEARLY INDICATING THAT THE SITE IS A CONSTRUCTION ZONE AND ACCESS IS RESTRICTED AS DEEMED NECESSARY
- 2. ERECT CLEARLY VISIBLE BARRIER FENCING AT LOCATIONS SHOWN OR IF NOT SHOWN AT THE DISCRETION OF THE SITE SUPERINTENDENT TO ENSURE TRAFFIC IS CONTROLLED AND TO PROHIBIT UNNECESSARY SITE DISTURBANCE
- 3. WHERE REQUIRED AT THE DISCRETION OF THE SITE SUPERINTENDENT, INSTALL STABILISED SITE ACCESS AT SITE ACCESS POINT TO PREVENT CONSTRUCTION EQUIPMENT FROM CARRYING SEDIMENT OFF THE SITE ONTO SURROUNDING ROADS.
- 4. PROVIDE GERNI PRESSURE CLEANER AT SITE EXIT POINT FOR TYRE WASH DOWN AT THE DISCRETION OF THE SITE SUPERINTENDENT.
- 5. INSTALL SEDIMENT AND EROSION CONTROL DEVICES IN ACCORDANCE WITH THE CONSTRUCTION DETAILS SPECIFIED IN THIS DRAWING SET AND/OR THE REQUIREMENTS OF THE 'BLUE BOOK'

CONSTRUCTION

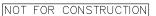
- GEOTEXTILE SOCKS TO FILTER AND CONVEY STORMWATER RUNOFF WITHIN THE SITE.
- ALL DRAINAGE WORKS SHALL BE CONSTRUCTED AND STABILISED AS EARLY AS POSSIBLE DURING DEVELOPMENT.
- INLET FILTERS SHALL BE INSTALLED WHERE SHOWN TO PREVENT WATER FROM DIRECTLY ENTERING THE PERMANENT DRAINAGE SYSTEM UNLESS IT IS RELATIVELY SEDIMENT FREE. IF THE LOCATION OF INLET FILTERS ARE NOT SHOWN ON THE PLAN THEIR LOCATION SHALL BE AT THE DISCRETION OF THE SUPERINTENDENT.
- 9. STAGE WORK AND PROGRAMMING OF CONSTRUCTION ACTIVITIES TO MINIMISE THE EXTENT AND DURATION OF OPEN EXCAVATION, AVOID OPENING TRENCHES WHENEVER THE RISKS OF STORMS ARE HIGH.
- 10. DIVERT SURFACE WATER AWAY FROM EXCAVATION AREAS WITH SANDBAGS OR EQUIVALENT.
- 11. FOR DEWATERING OF EXCAVATION AREAS SET UP TEMPORARY DEWATERING PUMP OUT SYSTEM AS REQUIRED AND ENSURE FLOCCULATION IS USED IF WATER IS NOT CLEAR (i.e. SEDIMENT > 50 mg/L). FOR RATES AND AGENTS REFER APPENDIX E NSW DEPARTMENT OF HOUSING "MANAGING URBAN STORMWATER SOILS & CONSTRUCTION". DISCHARGE SHALL BE DIRECTLY TO COUNCIL'S PIPED DRAINAGE SYSTEM. DO NOT DISCHARGE TO THE KERB.
- 12. STOCKPILES SHALL BE LOCATED NO CLOSER THAN 2m (PREFERABLY 5m) FROM CONCENTRATED WATER FLOW, ROADS AND HAZARD AREAS. PROTECT STOCKPILES FROM EROSION BY RAIN AND SURFACE FLOWS.
- 13. ENSURE CHEMICAL AND FUELS ARE STORED WITHIN BUNDED AREAS AND ELEVATED ABOVE POTENTIAL FLOW PATHS.

MAINTENANCE

- TRAPS SHALL BE CLEANED WHEN A MAXIMUM OF 60% FULL OF SOLID MATERIALS AND DISPOSED OF IN A MANNER THAT PREVENTS FURTHER POLLUTION OF THE SITE.
- 15. TEMPORARY SEDIMENT AND EROSION CONTROL DEVICES WILL BE RETAINED UNTIL EARTHWORK ACTIVITIES ARE COMPLETED AND THE SITE IS STABILISED.
- THE CONTRACTOR SHALL INSPECT THE SITE AT LEAST WEEKLY AND AFTER ANY STORM EVENT AND
- ENSURE THAT DRAINS OPERATE PROPERLY AND TO EFFECT ANY NECESSARY REPAIRS;
- REMOVE SPILLED SAND OR OTHER MATERIALS FROM AREAS OF LIKELY CONCENTRATED OR HIGH VELOCITY FLOWS (ESPECIALLY DRAINS AND TEMPORARY FLOW PATHS)
- REMOVE TRAPPED SEDIMENT WHENEVER LESS THAN DESIGN CAPACITY REMAINS WITHIN THE STRUCTURE;
- CONSTRUCT ADDITIONAL EROSION AND/OR SEDIMENT CONTROL WORKS AS REQUIRED;
- MAINTAIN EROSION AND SEDIMENT CONTROL MEASURES IN A FULLY FUNCTIONING CONDITION UNTIL ALL EARTHWORK ACTIVITIES ARE COMPLETED AND THE SITE IS STABILISED: AND
- REMOVE TEMPORARY EROSION AND SEDIMENT CONTROL STRUCTURES AS THE LAST ACTIVITY IN THE CONSTRUCTION PROGRAM.



STABILISED SITE ACCESS TO COUNCIL'S REQUIREMENTS PROVIDE SEDIMENT FENCE AS INDICATED. REFER TO DETAILS INDICATIVE EASEMENT LOT 3 PLACE FILTER ROLL/DIVERSION BANKS UPSTREAM STOCKPILE TO PROTECT FROM SURFACE GERNI FOR WHEFI WASH. FLOWS REFER TO NOTE 4 NDICATIVE LOCATION OF STORAGE/LAYDOWN AREA WITH SEDIMENT FENCING PLACED DOWNSTREAM, LAYDOWN PLACE FILTER ROLL/DIVERSION MAY BE RELOCATED TO SUIT BANKS UPSTREAM STOCKPILE CONTRACTOR'S REQUIREMENTS TO PROTECT FROM SURFACE FLOWS INDICATIVE LOCATION OF STORAGE/LAYDOWN AREA WITH SEDIMENT FENCING PLACED DOWNSTREAM, LAYDOWN MAY BE RELOCATED TO SUIT CONTRACTOR'S REQUIREMENTS STABILISED SITE ACCESS TO COUNCIL'S REQUIREMENTS PROVIDE SEDIMENT FENCE AS GERNI FOR WHEEL WASH INDICATED. REFER TO DETAILS REFER TO NOTE 4. <u>SEDIMENT & EROSION CONTROL PLAN</u> PLAN



500 mm TO 600 mm

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DETAIL

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AS NOTED

- DIRECTION OF FLOW

TRENCH WITH COMPACTED

INTO SURFACE CONCRETE

SECTION DETAIL

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BACKFILL AND ON ROCK, SET

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50 CONDOVER STREET, NORTH BALGOWLAH SEDIMENT & EROSION CONTROL PLAN P170945-DR-SD-100 APPROVED FOR DA SUBMISSION