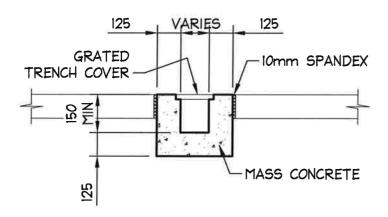


PRECAST OR CAST INSITU PIT REFER STORMWATER NOTES ALTERNATE POLYPROPYLENE PIT BY MANUFACTURER

450x450 PIT DETAIL

SCALE = 1 : 20



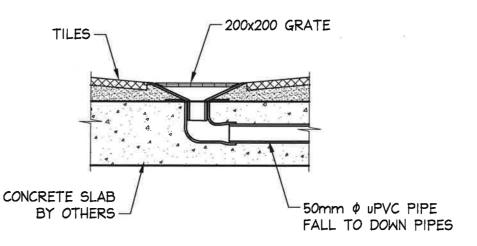
OR PRECAST GRATED DRAIN ALTERNATE POLYPROPYLENE DRAIN BY MANUFACTURER

TYPICAL GRATED DRAIN

SCALE = 1 : 20

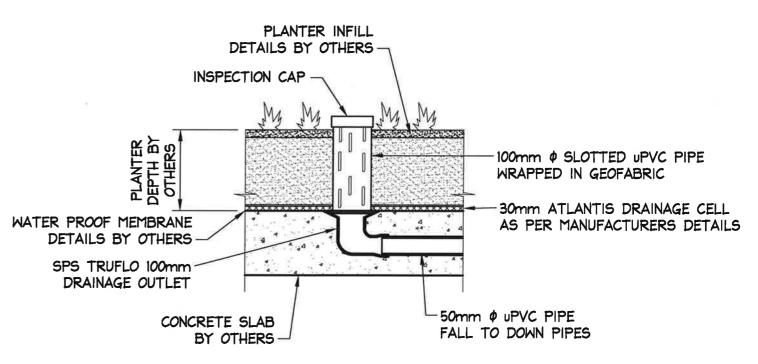
NOTES:

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STANDARD FLOOR DRAIN

SCALE = 1 : 10



REFER TO MANUFACTURERS SPECIFICATION FOR SPS DRAINAGE OUTLETS

STANDARD PLANTER DRAIN

SCALE = 1 : 10

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					DOCUMENT CERTIFICATION Date: 20/12/19 Stewart McGeady	
20.12.2019	Α	ISSUE FOR DA	LFC	ММ	B.E.(Civil),MIEAust. (Director NB Consulting Engineers)	9
Date:	Issue:	Description:	Ву:	Review:	The copyright of this drawing remains with Northern Beaches Consulting Engineers Pty Ltd. Trading as NB Consulting Engineers	E

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Aldingeot.				
THE DESIGN SECTION				
Client:				
WILLIAM ANDERSON				

PALM BEACH

1-3 FLORIDA RD Drawing Title: TYPICAL DRAINAGE

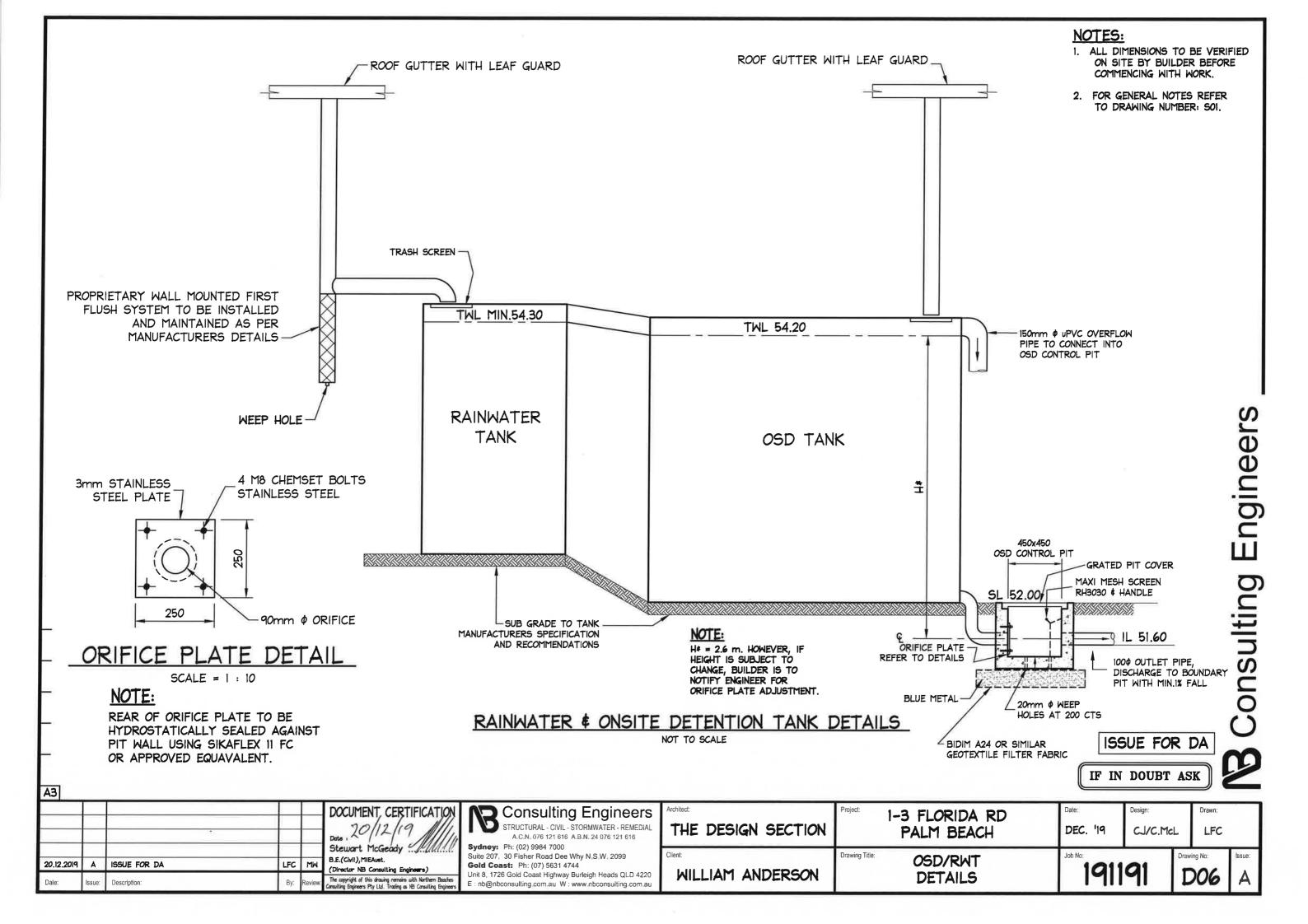
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NOTES:

- ALL DIMENSIONS TO BE VERIFIED ON SITE BY BUILDER BEFORE COMMENCING WITH WORK.
- 2. FOR GENERAL NOTES REFER TO DRAWING NUMBER: SOI.

STORMWATER NOTES:

- ALL PIPES TO BE 100mm & UNLESS NOTED OTHERWISE.
- ALL PIPES TO BE UPVC TO AS 1254-2002 UNLESS NOTED OTHERWISE.
- 3. ALL PIPES TO BE LAYED AT 1 % MINIMUM GRADE UNLESS NOTED OTHERWISE.
- 4. ALL PIPES SHALL BE LAID ON A 75mm SAND BED, COMPACTED TO 100% S.M.D.D. BELOW PAVEMENTS. (NO COMPACTION REQUIRED BELOW LANDSCAPING) COVER TO SURFACE FROM TOP OF PIPE TO BE 300mm MINIMUM. BACKFILL TO BE ADEQUATELY CONSOLIDATED AROUND PIPES BY METHOD OF RAMMING AND WATERING IN. TRENCHES TO BE FILLED WITH GRANULAR MATERIAL AS SPECIFIED.
- 5. ALL DOWN PIPES TO BE 100mm & UNLESS NOTED OTHERWISE.
- 6. DOWN PIPE LOCATIONS ARE INDICATIVE ONLY. LOCATIONS TO BE CONFIRMED WITH ARCHITECT PRIOR TO COMMENCEMENT OF WORK.
- 7. PROVIDE CLEANING EYES AT ALL DOWNPIPES.
- 8. ALL PITS TO BE CAST INSITU OR, IF PRECAST, APPROVED BY ENGINEER. CAST INSITU PITS TO HAVE ISOMM THICK CONCRETE WALLS AND BASE. WALLS TO BE REINFORCED WITH I NIZ TOP TIE UNLESS NOTED OTHERWISE. CAST INSITU PITS GREATER THAN 900 DEEP TO BE MINIMUM 900x600 AND TO HAVE 150mm THICK CONCRETE WALLS AND BASE. WALLS TO BE REINFORCED WITH NI2 AT 300 EACH WAY UNLESS NOTED OTHERWISE.
- 9. ALL PITS GREATER THAN 1000mm DEEP SHALL HAVE STEP IRONS AS PER COUNCIL STANDARDS.
- 10. THE BOUNDARY OR SILT ARRESTOR PIT SHOULD ALWAYS INCORPORATE A SUMP AND MAXI-MESH SCREEN AS PER LOCAL COUNCIL REQUIREMENTS. HOWEVER, UNLESS SPECIFICALLY REQUIRED BY COUNCILS POLICY OR IF THE SITE CONSISTS OF A CLAY OR ROCK SUBGRADE, ALL OTHER DRAINAGE PITS WILL NOT REQUIRE A SUMP.
- 11. ALL WORK TO BE IN ACCORDANCE WITH LOCAL COUNCIL STANDARDS AND SPECIFICATIONS.
- 12. PRIOR TO COMMENCING ANY SITE WORKS THE CONTRACTOR SHALL IMPLEMENT EROSION CONTROL MEASURES TO APPROVED SEDIMENT AND EROSION CONTROL PLAN, EPA GUIDELINES AND COUNCIL SPECIFICATIONS ALL MEASURES TO REMAIN IN PLACE UNTIL COMPLETION AND STABILIZATION OF THE SITE TO COUNCIL SATISFACTION.
- 13. ALL LEVELS SHOWN ARE TO AHD
- 14. ENSURE THAT ALL PITS AND STORMWATER PIPES ARE LOCATED CLEAR FROM TREE ROOT SYSTEMS.
- 15. ALL EXISTING EARTHENWARE PIPES TO BE UPGRADED TO UPVC.
- 16. ALL WORKS TO BE IN ACCORDANCE WITH AS 3500-2003 NATIONAL PLUMBING DRAINAGE CODE PART 3 - STORMWATER DRAINAGE.
- 17. UNLESS NOTED OTHERWISE, SUB-SOIL DRAINS ARE TO BE INSTALLED IN ACCORDANCE WITH AS3500.3 ALONGSIDE WALLS THAT IMPEDE THE NATURAL FLOW OF GROUNDWATER. THIS MAY ALSO INVOLVE TRENCHING INTO THE CLAY OR ROCK SUBGRADE TO DIRECT GROUNDWATER AWAY FROM STRUCTURES.
- 18. IF NOT INDICATED ON PLANS, PROVIDE LEAF CATCHERS TO ALL DOWNPIPES OR GUTTER GUARD TO ALL EAVES GUTTERS.
- 19. ORIFICE PLATE MUST BE INSTALLED PRIOR TO INSTALLATION OF THE ROOF DRAINAGE SYSTEM AND CONNECTION OF THE SITE STORMWATER SYSTEM TO THE ONSITE DETENTION TANK.

RAINWATER RE-USE TANKS:

- CONSIDERING THE ROOF CATCHMENT AREA, LOCATION OF PROPERTY, INTENDED USE OF RAINWATER AND GARDEN SIZE WE RECOMMEND PROVIDING A RAINWATER TANK FOR USE AS PER BASIX REQUIREMENTS, SYDNEY WATER AND NSW HEALTH REQUIRMENTS FOR NON DRINKING USE ONLY.
- THE TANKS PROVIDED WILL REDUCE PRESSURE ON COUNCIL'S STORMWATER INFRASTRUCTURE.
- 3. REFERENCES:
 - COOMBES P.J. \$ KUCZERA G. (2001), "RAINWATER TANK DESIGN FOR WATER SUPPLY \$ STORMWATER MANAGEMENT." STORMWATER INDUSTRY ASSOCIATION REGIONAL CONFERENCE. PATRICK DUPONT & STEVE SHACKEL, "RAINWATER" AUSTRALIAN GOVERNMENT (2004), "GUIDANCE ON USE OF RAINWATER TANKS"
- 4. ALL CONNECTIONS TO PLUMBING AND RAINWATER TANKS TO BE IN ACCORDANCE WITH SYDNEY WATERS' GUIDE "INSTALLING A RAINWATER TANK" AVAILABLE AT www.sydnevwater.com.au
- 5. PROVIDE A DUAL SUPPLY SYSTEM AND BACKFLOW PREVENTION SYSTEM IN ACCORDANCE WITH 'BASIX-DESIGN GUIDE FOR SINGLE DWELLINGS' BY NSW DEPARTMENT OF INFRASTRUCTURE, PLANING AND NATURAL RESOURCES.
- 6. IF NOT SPECIFIED ON PLANS, THE FIRST FLUSH SYSTEM IS TO HAVE A MINIMUM SIZE OF 20L PER 100m2 OF ROOF CATCHMENT AREA PRIOR TO ENTERING THE RAINWATER TANK. INDIVIDUAL SITE ANALYSIS IS REQUIRED IN HEAVILY POLLUTED AREAS TO DETERMINE IF LARGER VOLUMES OF FIRST FLUSH RAINWATER ARE TO BE DIVERTED. IF IN DOUBT, CHECK WITH LOCAL HEALTH AUTHORITIES.
- 7. SCREENED DOWNPIPE RAINWATER HEAD OR OTHER SUITABLE LEAF AND DEBRIS DEVICE TO BE INSTALLED ON EACH DOWNPIPE. SCREEN MESH TO BE 4-6mm AND DESIGNED TO BE SELF-CLEANIN
- 8. FIRST FLUSH DEVICES, OR APPROVED ALTERATIVE, TO BE INSTALLED WITH AN AUTOMATED DIVERSION AND DRAINAGE SYSTEM, THAT IS, NO MANUAL DIVERSION AND DRAINAGE VALVES. REFER TYPICAL FLUSH OUT PIT FOR DETAILS.
- 9. BEFORE PURCHASING MATERIALS OR PAINT TO BE USED ON ROOF CATCHMENT AREAS, THE MANUFACTURER'S RECOMMENDATIONS ON LABELS AND BROCHURES FOR RAINWATER TANK SUITABILITY TO BE READ AND ADHERED TO.
- 10. PRE-STORAGE PITS FOR UNDERGROUND RAINWATER STORAGE TANKS AND FLUSH OUT PITS MAY ASSIST IN LIMITING SILT, AND PREVENT VERMIN, INSECTS (INCLUDING MOSQUITOES) AND DEBRIS FROM ENTERING THE RAINWATER STORAGE AREA.
- 11. BUILDER/PLUMBER TO ENSURE THE INSTALLATION OF THE RAINWATER TANK SYSTEM IS IN ACCORDANCE WITH THE RELEVANT AUSTRALIAN STANDARDS AND THE RAINWATER TANK DESIGN AND INSTALLATION HANDBOOK - HB 230-2008. IF IN DOUBT CONTACT ENGINEER.
- 12. RAINWATER TANK TO BE WATER PROOFED IN ACCORDANCE WITH HB 230-200B

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Gold Coast: Ph: (07) 5631 4744 Unit 8, 1726 Gold Coast Highway Burleigh Heads QLD 4220 E: nb@nbconsulting.com.au W: www.nbconsulting.com.au

ı	Architect:		
	THE	DESIGN	SECTION
1	Client:		

WILLIAM ANDERSON

1-3 FLORIDA RD PALM BEACH

STORMWATER \$

RWT NOTES

DEC. 19

Design: CJ/C.McL

LFC

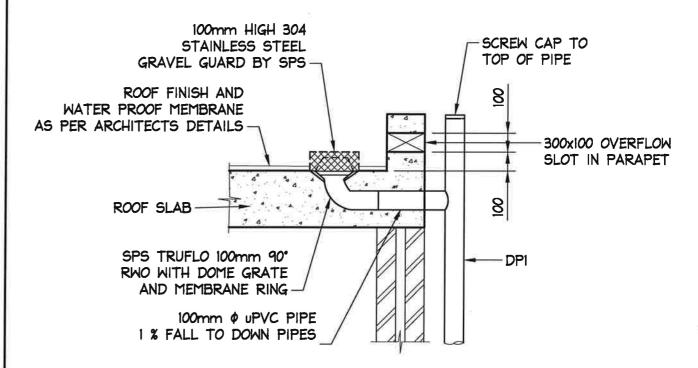
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NOTES:

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- 2. FOR GENERAL NOTES REFER TO DRAWING NUMBER: 501.

ONSITE DETENTION SYSTEM SUMMARY NOTES

1		
ı	TOTAL SITE AREA	1421.7 m ²
I	DESIGN METHOD USED	DRAINS
I	PRE DEVELOPMENT IMPERVIOUS AREA	232.16 m ² (16%)
I	POST DEVELOPMENT IMPERVIOUS AREA	538.3 m ² (39%)
ı	INCREASE IMPERVIOUS AREA	306.14 m ²
I	PRE DEVELOPMENT SITE DISCHARGE	
I	5 YR	35 1/s
١	20 YR	57 1/s
I	100 YR	92 1/s
I	POST DEVELOPMENT SITE DISCHARGE	
l	5 YR	35 1/s (15 1/s from OSD)
ı	20 YR	43 1/s (19 1/s from OSD)
l	100 YR	78 1/s (24 1/s from OSD)
l	PORTION OF IMPERVIOUS AREA THROUGH OSD	100 %
l	ORIFICE SIZE	90 mm Φ
l	TYPE OF CONTROL	ABOVE GROUND POLY TANK
l	MAXIMUM CONCENTRATED DISCHARGE TO SWALE	24 1/s
l	VOLUME OF OSD	10 m3 (NOTE: 9.96 m3 REQUIRED)
	VOLUME OF RAINWATER PROVIDED	5,000 L



RDI - ROOF DRAIN DETAIL

NOT TO SCALE

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Consulting Engineers
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THE DESIGN SECTION
Client:
WILLIAM ANDERSON

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1-3	FLOKI	DA RD
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T/	ALM B	EACH

OSD SUMMARY

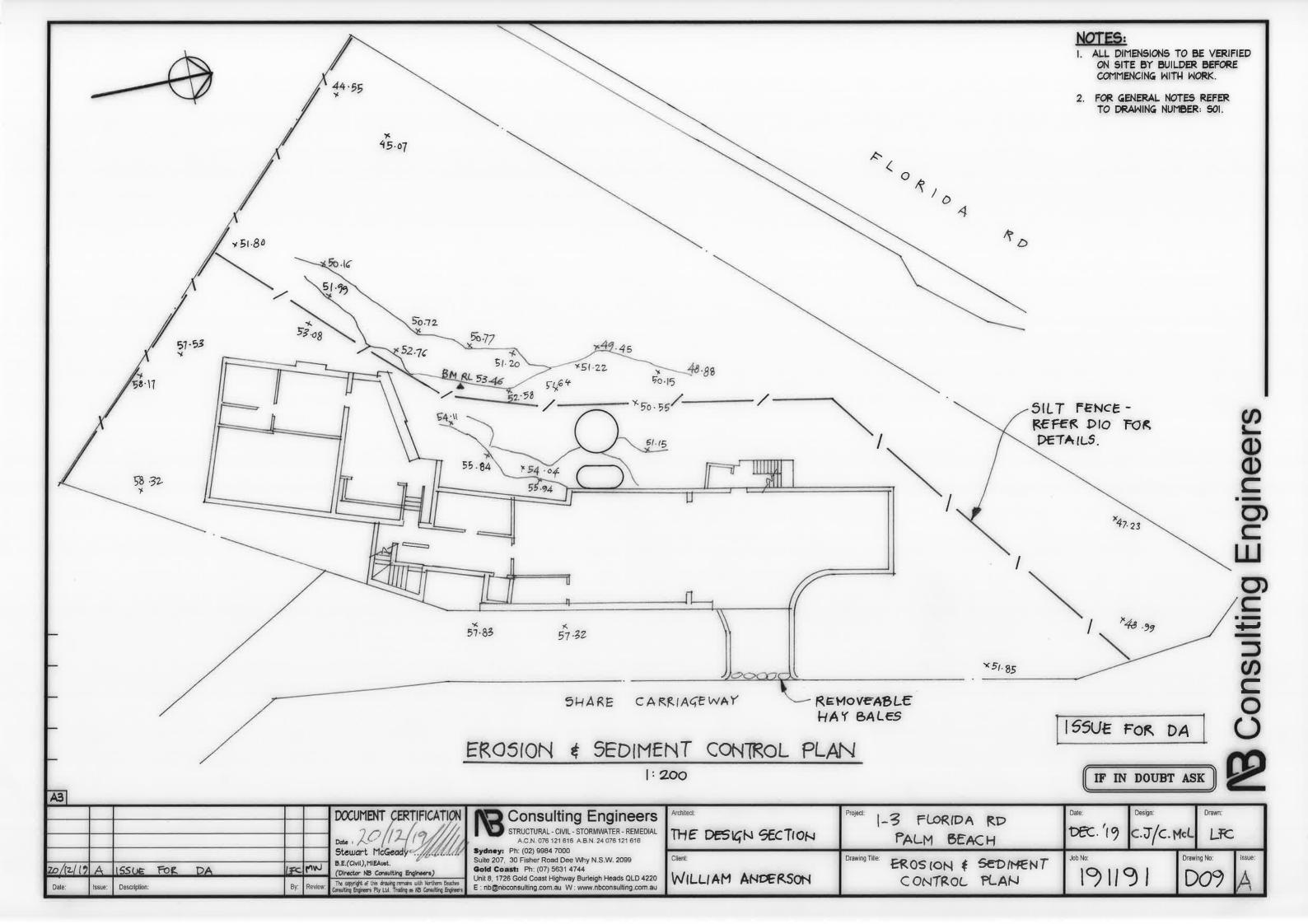
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NOTES:

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SEDIMENT CONTROL:

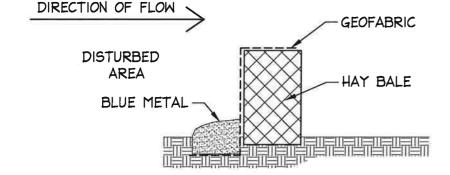
- 1. INSTALL SEDIMENT CONTROL STRUCTURES IN LOCATIONS INDICATED ON DRAWINGS AND AS OTHERWISE REQUIRED TO CONTROL SEDIMENT DURING ALL EXCAVATIONS AND WHILST AREAS OF THE SITE ARE EXPOSED TO EROSION.
- 2. CONTROL STRUCTURES TO BE AS DETAILED OR AS OTHERWISE REQUIRED BY CERTIFYING AUTHORITY.
- 3. REVIEW CONTROL MEASURES AND MAINTAIN STRUCTURES DURING CONSTRUCTION.
- 4. IF ADDITIONAL MEASURES ARE REQUIRED FOR EROSION CONTROL OR BY COUNCIL REQUIREMENTS REFER TO "URBAN EROSION AND SEDIMENT CONTROL" GUIDELINES PREPARED BY THE DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT.

STAR PICKET TO HOLD HAY BAIL AND GEOFABRIC DIRECTION OF FLOW **GEOFABRIC** DISTURBED AREA HAY BALE BLUE METAL

SILT FENCE DETAIL SCALE = N.T.S.

NOTES:

- ALL EROSION AND SEDIMENT CONTROL MEASURES TO BE INSPECTED AND MAINTAINED DAILY BY SITE MANAGER.
- 2. MINIMISE DISTURBED AREAS!
- 3. ALL STOCKPILES TO BE CLEAR FROM DRAINS, GUTTERS AND FOOTPATHS.
- 4. DRAINAGE IS TO BE CONNECTED TO STORMWATER SYSTEM AS SOON AS POSSIBLE.
- 5. ROADS AND FOOTPATH TO BE SWEPT DAILY.



REMOVABLE HAY BALE DETAIL

SCALE = N.T.S.

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THE DESIGN SECTION

WILLIAM ANDERSON

1-3 FLORIDA RD PALM BEACH

Drawing Title: SEDIMENT CONTROL

DETAILS

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