# **STORMWATER MANAGEMENT PLAN PROPOSED DEVELOPMENT No.WHALE BEACH ROAD WHALE BEACH**

PIPE SIZE:

PIPE GRADE:

EXCEEDING 3.0m

THE MINIMUM PIPE SIZE SHALL BE

OF 6.0 m/s DURING THE DESIGN STORM

THE MINIMUM PIPE GRADE SHALL BE:

UNPAVED AREAS ON THE PROPERTY

1.0% FOR PIPES LESS THAN 225mm DIA (UNO)

0.5% FOR ALL LARGER PIPES (UNO)

## **GENERAL NOTES**

- 1. FINAL LOCATION OF NEW DOWNPIPES TO BE DETERMINED BY BUILDER/ARCHITECT AT TIME OF CONSTRUCTION.
- 2. THESE DRAWINGS TO BE READ IN CONJUNCTION WITH ARCHITECTS AND OTHER CONSULTANTS DRAWINGS. ANY DISCREPANCIES TO BE REFERRED TO THE ENGINEER BEFORE PROCEEDING WITH WORK
- 3. ALL MATERIALS AND WORKMANSHIP TO BE IN ACCORDANCE WITH AS/NZS 3500.3:2003 STORMWATER DRAINAGE, BCA AND LOCAL COUNCIL POLICY/CONSENT/REQUIREMENTS.
- 4. ALL DIMENSIONS AND LEVELS TO BE VERIFIED BY BUILDER ON-SITE PRIOR TO COMMENCEMENT OF WORKS. THESE DRAWINGS ARE NOT TO BE SCALED FOR DIMENSIONS NOR TO BE USED FOR SETOUT PURPOSES.
- 5. ALL SURVEY INFORMATION AND PROPOSED BUILDING AND FINISHED SURFACE LEVELS SHOWN IN THESE DRAWINGS ARE BASED ON LEVELS OBTAINED FROM DRAWINGS BY OTHERS.

- 6. ALL STORMWATER DRAINAGE PIPES ARE TO BE uPVC AT MINIMUM 1% GRADE UNLESS NOTED OTHERWISE
- 7. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE AND LEVEL ALL EXISTING SERVICES OR OTHER STRUCTURES WHICH MAY AFFECT/BE AFFECTED BY THIS DESIGN PRIOR TO COMMENCEMENT OF WORKS
- 8. ALL PITS WITHIN DRIVEWAYS TO BE 150mm THICK CONCRETE OR EQUAL.
- 9. THIS PLAN IS THE PROPERTY OF RESOLUTE STORMWATER AND MAY NOT BE USED OR REPRODUCED WITHOUT WRITTEN PERMISSION FROM RESOLUTE STORMWATER.

# PLAN SPECIFIC NOTES

- 1. ROOF DRAINAGE NOTE: TO BE ISSUED AT CC STAGE AS 3500 ROOF -DRAINAGE REQUIRES EAVES GUTTERS TO BE SIZED FOR 20 YEAR 5 MIN. STORM = 205mm/hr. FOR EAVES GUTTERS, AS 3500.3:2003 THEN HAS THE FOLLOWING REQUIREMENTS:
- i) FOR TYPICAL STANDARD OHAD GUTTER WITH AP = 8000mm<sup>2</sup> AND GUTTER SLOPE 1:500 AND STEEPER. THIS REQUIRES ONE DOWNPIPE PER 30m<sup>2</sup> ROOF AREA
- ii)-DOWNPIPES TO BE MINIMUM 90mm DIA. OR 100 x 50mm FOR GUTTERS SLOPE 1:500 AND STEPPER.
- iii)-OVERFLOW METHOD TO FIGURE G1 OF AS 3500.3:2003
- IT IS THE RESPONSIBILITY OF THE PLUMBER AND / OR BUILDER TO COMPLY WITH THIS. THIS DRAWING SHOWS PRELIMINARY LOCATIONS / NUMBERS OF DOWNPIPES ONLY WHICH ARE TO BE
- VERIFIED BY BUILDER / PLUMBER

- 2. TREE PRESERVATION: IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN ANY PRIOR APPROVAL REQUIRED FROM COUNCIL WITH RESPECT TO POTENTIAL IMPACT ON TREES FOR ANY WORKS SHOWN ON THIS DRAWING PRIOR TO THE COMMENCEMENT OF THOSE WORKS
- 3. ALL ROOF GUTTERS TO HAVE OVERFLOW PROVISION IN ACCORDANCE WITH AS 3500.3:2003 AND SECTIONS 3.5.3, 3.7.5 AND APPENDIX G OF AS 3500.3:2003
- 4. THIS DRAWING IS NOT TO BE USED FOR SET-OUT PURPOSES REFER TO ARCHITECTURAL DRAWINGS
- 5 LOCATION OF SURFACE STORMWATER GRATED INLET PITS MAY BE VARIED OR NEW PITS INSTALLED AT THE CONSTRUCTION STAGE PROVIDED DESIGN INTENT OF THIS DRAWING IS MAINTAINED

SURFACE INLET PIT		LEGEND	GRATED TRENCH DRAIN	(
SURFACE INLET PIT (WITH ENVIROPOD 200 MICRON)			ABSORPTION TRENCH	
ACCESS GRATE			PROPOSED ROOF GUTTER FALL	<b>—</b> ►
(WITH ENVIROPOD 200 MICRON)		PR	OPOSED DOWNPIPE SPREADER	⊢● SP
450 SQUARE INTERVAL	450 X 450	STORMW	ATER PIPE 100mm DIA. MIN. UNO	
GRATE LEVEL = 75.50	SL 75.50		SUBSOIL PIPE	aa
INVERT LEVEL = RL 75.20	IL 75.20		EXISTING STORMWATER PIPE	<b> sw</b>
PROPOSED DOWNPIPE 90mm DIA. OR 100mm x 50mm MIN.	DP 90		INSPECTION RISER	<b>O</b> IR
NATURAL GROUND FINISHED DESIGN LEVEL	× 10.00		RAINWATER HEAD	RWH

# DRAINAGE NOTES



ANCHOR BLOCKS ARE DESIGNED ACCORDING TO CLAUSE 3.5.3 OF AS3500 3-1990

• 90mm DIA WHERE THE LINE ONLY RECEIVES ROOFWATER RUNOFF; OR

100mm DIA WHERE THE LINE RECEIVES RUNOFF FROM PAVED OR

THE MINIMUM PIPE VELOCITY SHOULD BE 0.6 m/s AND A MAXIMUM PIPE VELOCITY

PIPES WITH A GRADIENT GREATER THAN 20% WILL REQUIRE ANCHOR BLOCKS AT

THE TOP AND BOTTOM OF THE INCLINED SECTION: AND AT INTERVALS NOT

#### DEPTH OF COVER FOR PVC PIPES MINIMUM PIPE COVER SHALL BE AS FOLLOWS:

LOCATION	MINIMUM COVER
NOT SUBJECT TO VEHICLE LOADING	100mm SINGLE RESIDENTIAL 300mm ALL OTHER DEVELOPMENTS
SUBJECT TO VEHICLE LOADING	450mm WHERE NOT IN A ROAD
UNDER A SEALED ROAD	600mm
UNSEALED ROAD	750mm
PAVED DRIVEWAY	100mm PLUS DEPTH OF CONCRETE

SEE AS2032 INSTALLATION OF UPVC PIPES FOR FURTHER INFORMATION

CONCRETE PIPE COVER SHALL BE IN ACCORDANCE WITH AS3725-1989 LOADS ON BURIED CONCRETE PIPES, HOWEVER A MINIMUM COVER OF 450mm WILL APPLY.

WHERE INSUFFICIENT COVER IS PROVIDED, THE PIPE SHALL BE COVERED AT LEAST 50mm THICK OVERLAY AND SHALL THEN BE PAVED WITH AT LEAST:

- 150mm REINFORCED CONCRETE WHERE SUBJECT TO HEAVY VEHICLE TRAFFIC:
- 75mm THICKNESS OF BRICK OR 100mm OF CONCRETE PAVING WHERE SUBJECT TO LIGHT VEHICLE TRAFFIC; OR
- 50mm THICK BRICK OR CONCRETE PAVING WHERE NOT SUBJECT TO VEHICLE TRAFFIC.

## CONNECTIONS TO STORMWATER DRAINS UNDER BUILDINGS:

SHALL BE CARRIED OUT IN ACCORDANCE WITH SECTION 3.10 OF AS3500.3-1990

## CONNECTIONS TO COUNCIL SYSTEM:

IF PROPOSED DRAINAGE SYSTEM IS DESIGNED TO CONNECT TO COUNCIL'S DRAINAGE SYSTEM, IT IS ADVISED THAT A 'WORKS PERMIT' IS OBTAINED FROM THE RESPECTIVE COUNCIL PRIOR TO COMMENCEMENT OF WORKS

## ABOVE GROUND PIPEWORK

SHALL BE CARRIED OUT IN ACCORDANCE WITH SECTION 6 OF AS3500.3-1990

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## PIT SIZES AND DESIGN

DEPTH (mm)	MINIMUM PIT SIZE (mm)
UP TO 600mm	450 x 450
600mm TO 900mm	600 x 600
900mm TO 1200mm	600 x 900
OVER 1200mm	900 x 900 (WITH STEP IRONS)

ALL PIPES SHOULD BE CUT FLUSH WITH THE WALL OF THE PIT.

PITS GREATER THAN 600mm DEEP SHALL HAVE A MINIMUM ACCESS OPENING OF 600 x 600mm

THE GRATED COVERS OF PITS LARGER THAN 600 x 600mm ARE TO BE HINGED TO PREVENT THE GRATE FROM FALLING INTO THE PIT.

THE BASE OF THE DRAINAGE PITS SHOULD BE AT THE SAME LEVEL AS THE INVERT OF THE OUTLET PIPE. RAINWATER SHOULD NOT BE PERMITTED TO POND WITHIN THE STORMWATER SYSTEM

## TRENCH DRAINS:

CONTINUOUS TRENCH DRAINS ARE TO BE OF WIDTH NOT LESS THAN 150mm AND DEPTH NOT LESS THAN 100mm. THE BARS OF THE GRATING ARE TO BE PARALLEL TO THE DIRECTION OF SURFACE FLOW

## STEP IRONS:

PITS BETWEEN 1.2m AND 6m ARE TO HAVE STEP IRONS IN ACCORDANCE WITH AS1657. FOR PITS GREATER THAN 6m OTHER MEANS OF ACCESS MUST BE PROVIDED.

## PVC PITS

PVC PITS WILL ONLY BE PERMITTED IF THEY ARE NOT A GREATER SIZE THAN 450 x 450mm (MAXIMUM DEPTH 450mm) AND ARE HEAVY DUTY

## **IN-SITU PITS:**

IN-SITU PITS ARE TO BE CONSTRUCTED ON A CONCRETE BED OF AT LEAST 150mm THICK. THE WALLS ARE TO BE DESIGNED TO MEET THE MINIMUM REQUIREMENTS OF CLAUSE 4.6.3 OF AS3500.4-1990. PITS DEEPER THAN 1.8m SHALL BE CONSTRUCTED WITH REINFORCED CONCRETE.

## GRATES

GRATES ARE TO BE GALVANISED STEEL GRID TYPE. GRATES ARE TO BE OF HEAVY-DUTY TYPE IN AREAS WHERE THEY MAY BE SUBJECT TO VEHICLE LOADING.



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## DUST CONTROL:

• NOTE: DURING EXCAVATION, DEMOLITION AND CONSTRUCTION, ADEQUATE MEASURES SHALL BE TAKEN TO PREVENT DUST FROM AFFECTING THE AMENITY OF THE NEIGHBORHOOD.

THE FOLLOWING MEASURES MUST BE ADOPTED:

1. PHYSICAL BARRIERS SHALL BE ERECTED AT RIGHT ANGLES TO PREVENT WIND DIRECTION OR SHALL BE PLACED AROUND OR OVER DUST SOURCES TO PREVENT WIND OR ACTIVITY FROM GENERATING DUST.

2. EARTHWORKS AND SCHEDULING ACTIVITIES SHALL BE MANAGED TO COINCIDE WITH THE NEXT STAGE OF DEVELOPMENT TO MINIMISE THE AMOUNT OF TIME THE SITE IS LEFT TO CUT OR EXPOSED.

 ALL MATERIALS SHALL BE STORED OR STOCKPILED AT THE BEST LOCATIONS.
THE GROUND SURFACE SHOULD BE DAMPENED SLIGHTLY To PREVENT DUST FROM BECOMING AIRBORNE BUT SHOULD NOT BE WET TO THE EXTENT THAT RUN-OFF OCCURS.

5. ALL VEHICLES CARRYING SOIL OR RUBBLE TO OR FROM THE SITE SHALL AT ALL TIMES BE COVERED TO PREVENT THE ESCAPE OF DUST.

6. ALL EQUIPMENT WHEELS SHALL BE WASHED BEFORE EXISTING THE SITE USING MANUAL OR

AUTOMATED SPRAYERS AND DRIVE - THROUGH WASHING BAYS.

7. GATES SHALL BE CLOSED BETWEEN VEHICLE MOVEMENTS SHALL BE FITTED WITH SHADE CLOTH.

8. CLEANING OF FOOTPATHS AND ROADWAYS SHALL CARRIED OUT DAILY.

9. ALL BUILDERS REFUSE, SPOIL AND/OR MATERIAL UNSUITABLE FOR USE IN LANDSCAPE AREAS SHALL BE REMOVED FROM SITE ON COMPLETION OF THE BUILDING WORKS.

## NOTES:

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- 1. ALL EROSION AND SEDIMENT CONTROL MEASURES TO BE INSPECTED AND MAINTAINED DAILY BY SITE MANAGER IN ACCORDANCE WITH COUNCIL REQUIREMENTS.
- 2. ALL STOCKPILES TO BE CLEAR FROM DRAINS, GUTTERS AND FOOTPATHS.
- 3. DRAINAGE IS TO BE CONNECTED TO STORMWATER SYSTEM AS SOON AS
- POSSIBLE. 4. ROADS AND FOOTPATH TO BE SWEPT DAILY AS REQUIRED BY COUNCIL.
- IF YOU DO NOT COMPLY WITH COUNCIL REQUIREMENTS & DOCUMENTATION, YOU MAY BE LIABLE TO PROSECUTION FROM GOVERNMENT AUTHORITIES.

LEGEND:
SEDIMENT FENCE
STOCK PILES
STABILIZED SITE ACCESS
MESH & GRAVEL INLET FILTER
WATER DIVERSION
STORMWATER PIT WITH SEDIMENT BARRIER

ERECT SEDIMENT FENCE, WHERE SHOWN, DURING CONSTRUCTION. REFER TO DETAIL

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