PAPAKURA
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Standard Detail Drawings

General

G1	Private Right of Way
G2	Non-residential/Business Private Ways Construction

Roading

R1	Road Name Sign
R2	Services Layout Berm Cross Section (urban)
R3	Design Chart Flexible Pavements
R4	Vehicle Crossing (urban) Footpath Adjacent to Kerb
R5	Vehicle Crossing (urban) Footpath Away from Kerb
R6	Vehicle Crossing (urban) High Speed Turnoff
R7	Vehicle Crossing Commercial
R8	Vehicle Crossing (urban) Drainage via Grass Berm
R9	Vehicle Crossing (urban) Non-standard Berm Slope
R11	Intersection Sight Distance
R13	Cul-de-sac Head Dimensions
R14	Cul-de-sac Head Alternatives
R16	Typical Dimensions Kerb and Channel
R17	Typical Catchpit Details
R19	Recess Catchpit
R21	Wheelchair Ramp Kerb Crossing
R29	Standard Rural Property Entrance – Residential
R31	Private Heavy Vehicle Access
R32	Sand for Use in Replacement of Undercuts in Road Works

Stormwater

SW1	Stormwater Catchment Boundaries
SW2	Design Rainfall DDF Curves
SW3	Onehunga-Manukau Harbour Datums & Tides
SW4	Cast in Situ Reinforced Concrete Drainage Structures
SW5	Precast Manhole Flanged Base up to 4.5m Deep
SW6	Stormwater Manhole Details Cast In-Situ Base
SW7	Precast Manhole Cast In-Situ Base for Pipes >600mm
SW8	Manhole Throat Details
SW9	PE Pipe Manhole Connections
SW10	Stormwater Catchment Boundaries
SW11	Catchpit 1 of 2
SW11	Catchpit 2 of 2
SW13	RAMP Riser for Stormwater House Connections
SW14	Anchor Block Details
SW15	Pipe Bedding
SW16	Inlet and Outlet Structures
SW17	Build Over Influence Zone and Clearances to Manholes
SW18	Foundation/Pipe Clearances for Building Close to Public Drains
SW19	Minimum Freeboard Requirements for Building Adjacent to Floodplains
SW20	Groundwater Recharge Pit for Peat Areas Plan
SW21	Groundwater Recharge Pit for Peat Areas Cross Section
SW22	Recharge Pit Feature Dimensions V Impervious Area

Waste Water

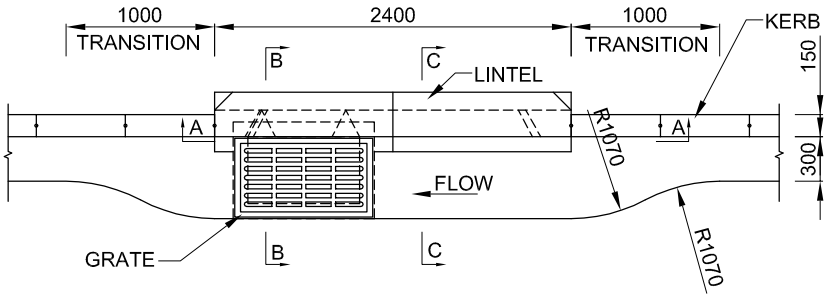
Contact United Water (U.W.I)

Water

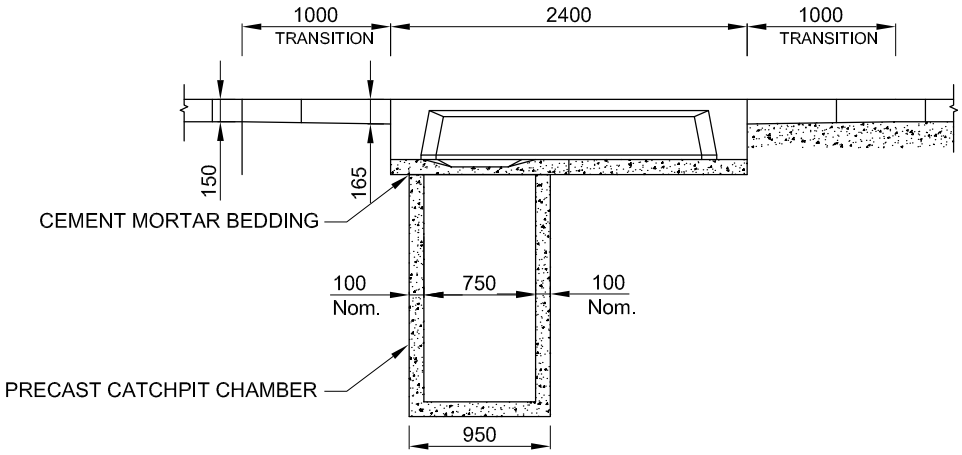
Contact United Water (U.W.I.)

Parks and Reserves

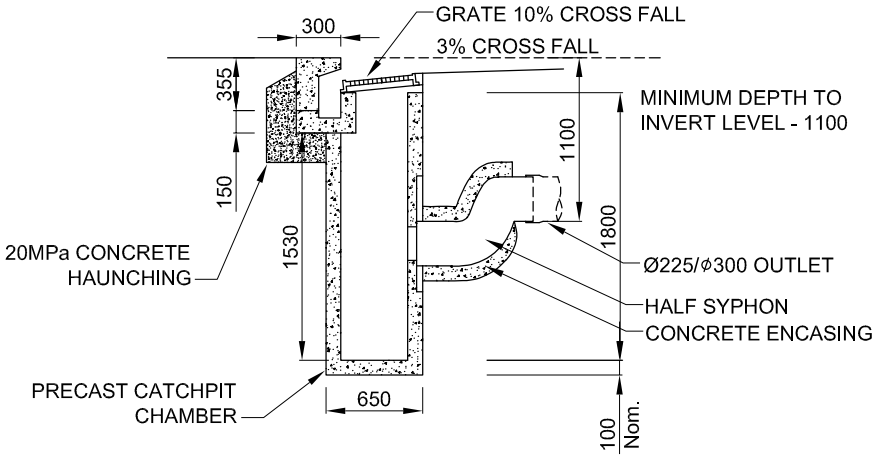
P1	Pedestrian Accessway Details
P3	Standard Park Barriers
P4	Berm Cross-Section for Tree Landscaping
P5	Street Tree Placement



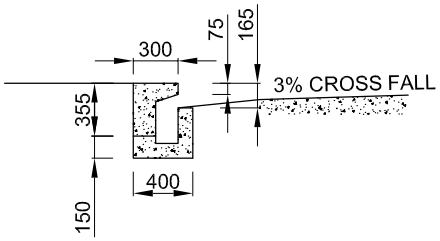
PLAN



SECTION A-A



SECTION B-B



SECTION C-C

NOTES

1. ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED
2. CONCRETE TO 20MPa
3. CATCHPIT TO BE 1.8m DEEP
4. HALF SYPHON TO BE USED IN ALL CASES
5. GRATES SHALL BE MAX. Q 800x500
6. TRANSITION - KERB HEIGHT CHANGES FROM 150 TO 165
7. CAPACITY OF Ø225 SYPHON OUTLET, LIMIT TO 50L/SEC
8. PRECAST UNITS A AND B WITH LINTEL CAN BE RETROFITTED TO EXISTING CATCHPIT
9. MAX PIT IS TO BE USED WHERE EXTRA INLET CAPACITY IS REQUIRED

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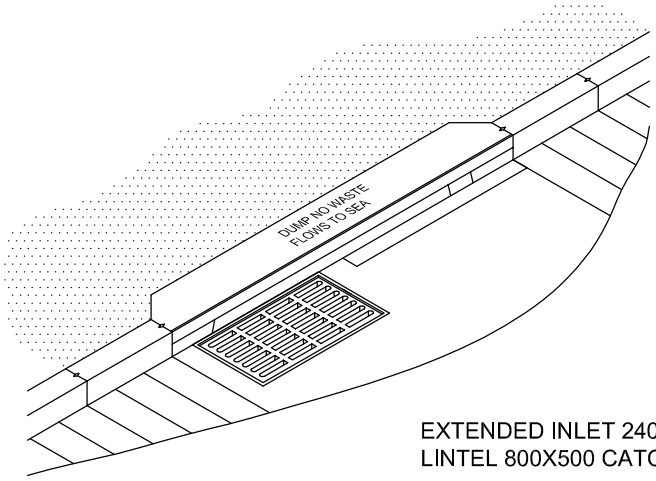
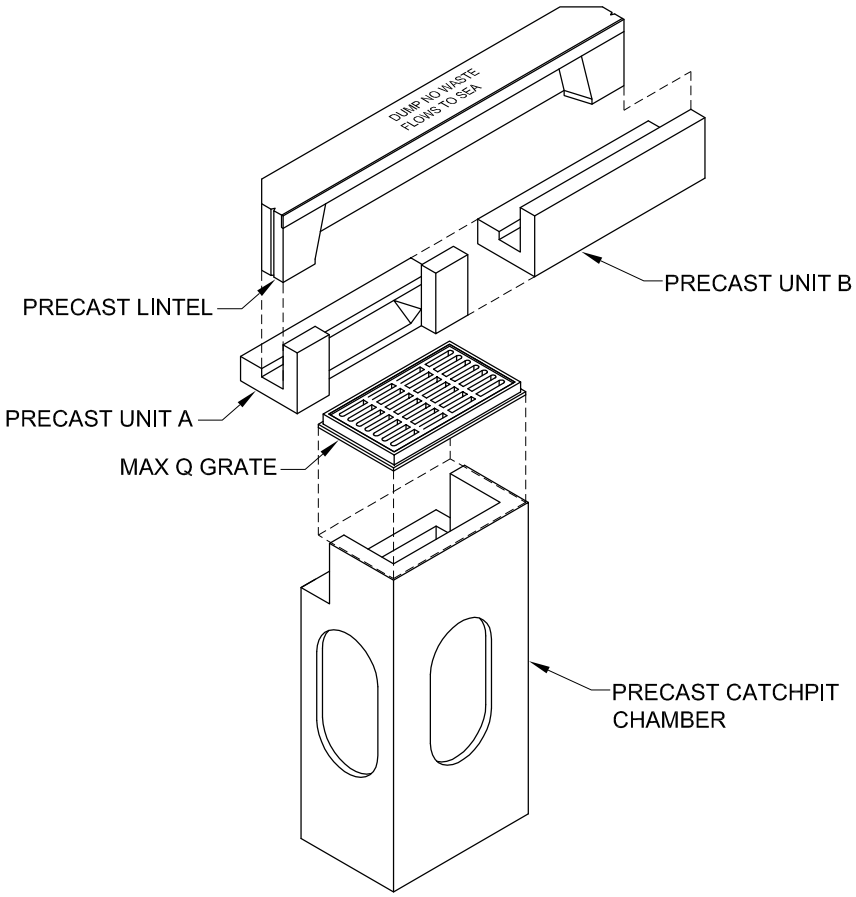
MAX PIT
SHEET 1 OF 2



EXTENDED INLET 2400
LINTEL 800X500 CATCHPIT



NOTE:
WHEN RETROFITTING UNIT A TO EXISTING, TRIM BACK EXISTING CATCHPIT AS ABOVE. PLACE UNIT A CENTRALLY OVER BACK OF CATCHPIT ON CONCRETE BEDDING.

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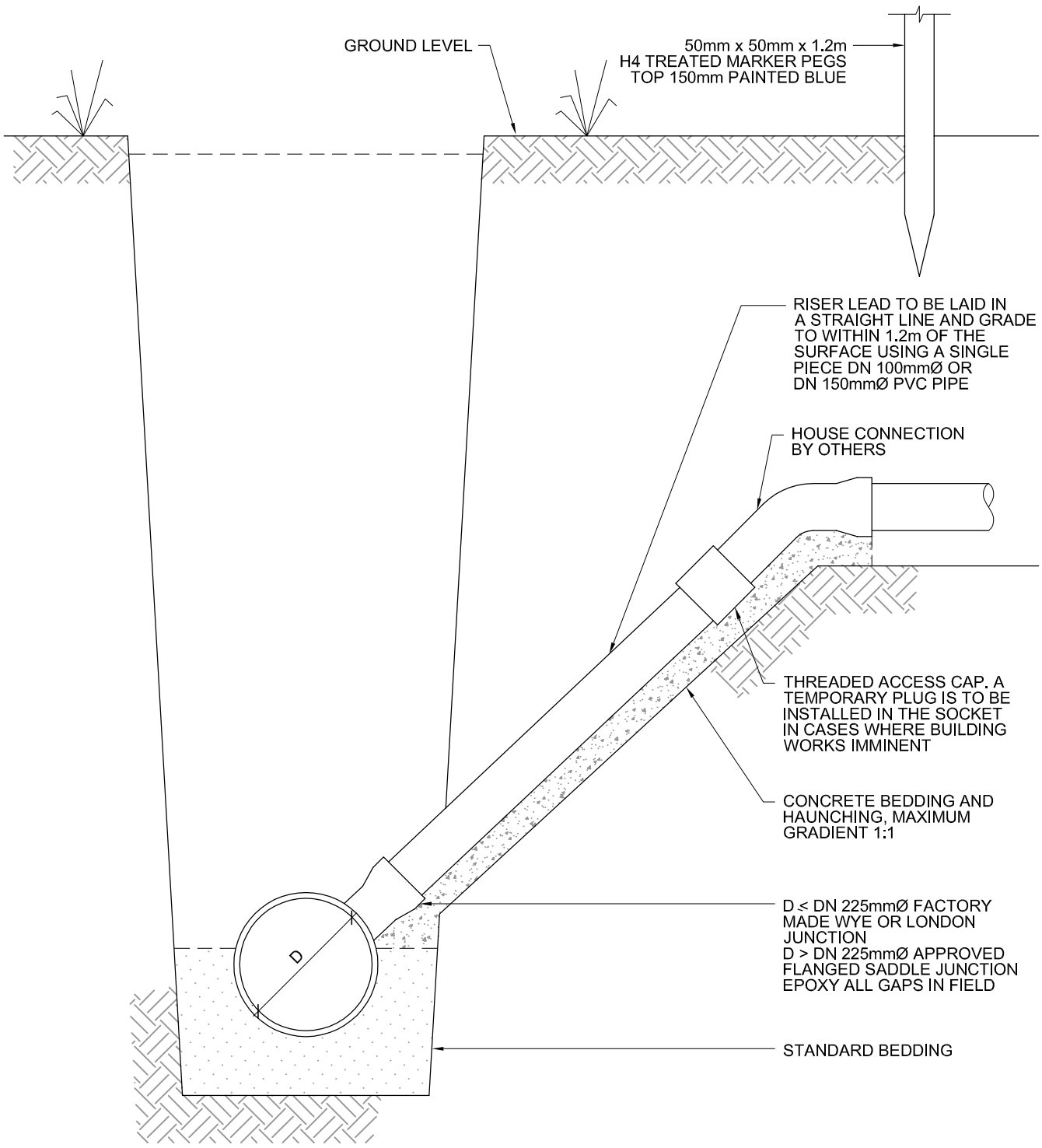
CATCHPIT
SHEET 2 OF 2



NOTES

1. ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED.
2. FOR SADDLE CONNECTION, HOLE IN EXISTING PIPE IS TO BE DRILLED OUT. USE OF PERCUSSION TOOLS SUCH AS SLEDGE HAMMERS IS NOT PERMITTED. NO PROTRUSION INSIDE THE EXISTING BORE IS ALLOWED.

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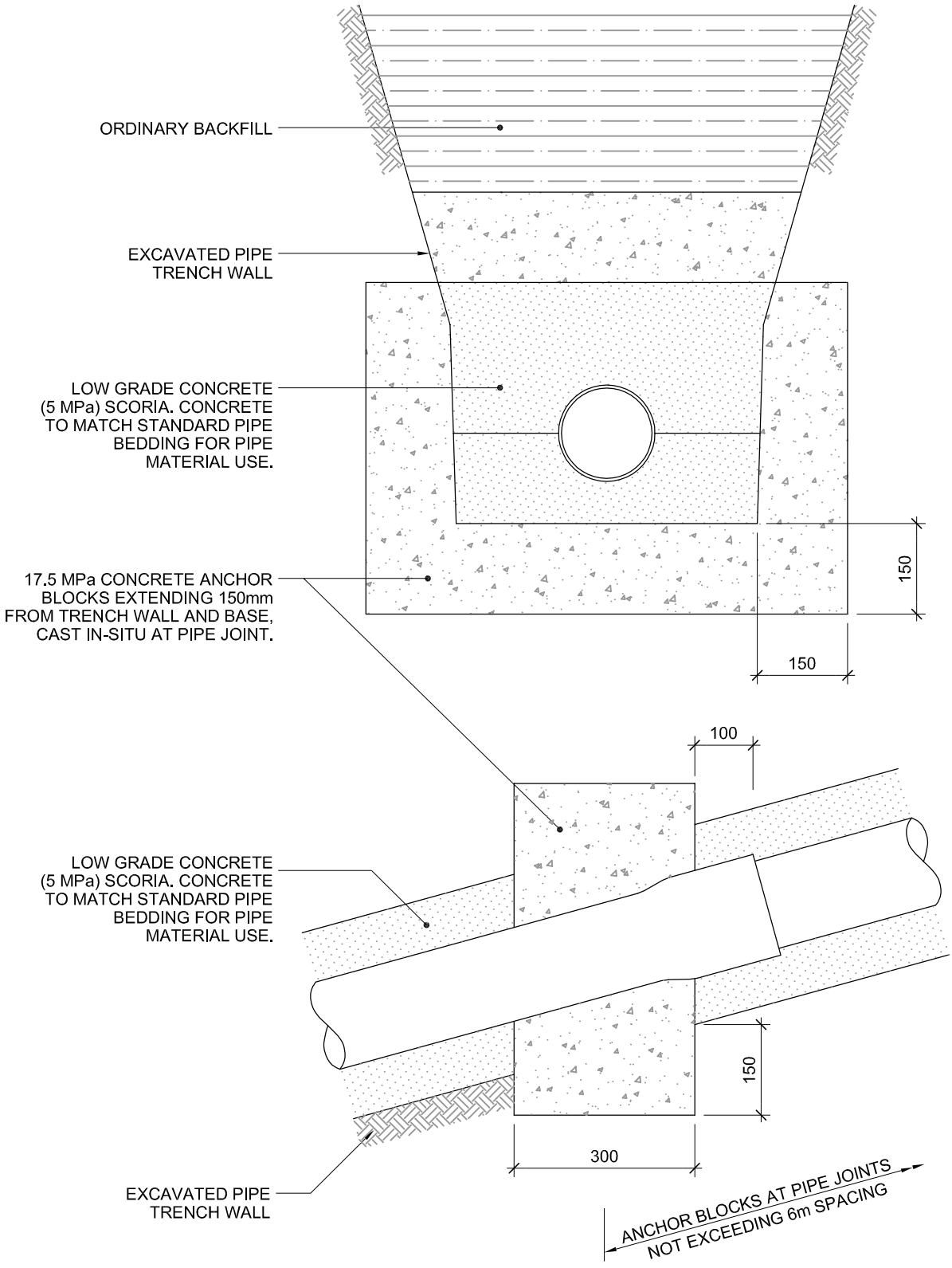
RAMP RISER FOR STORMWATER HOUSE CONNECTIONS



NOTES

1. ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED.

PAPAKURA DISTRICT COUNCIL

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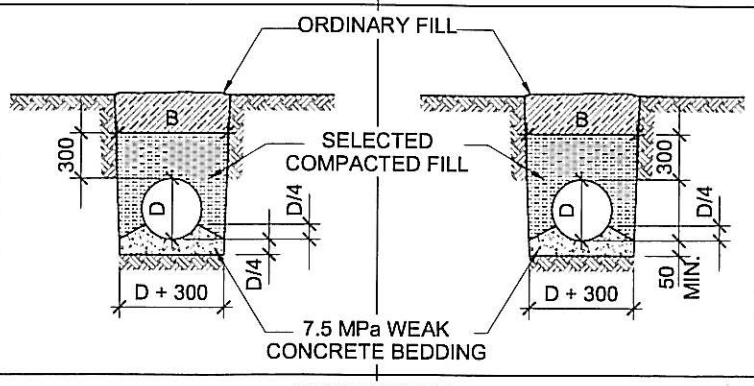
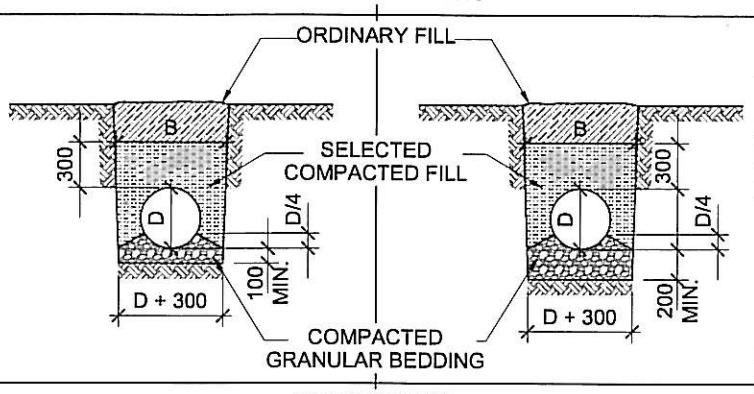
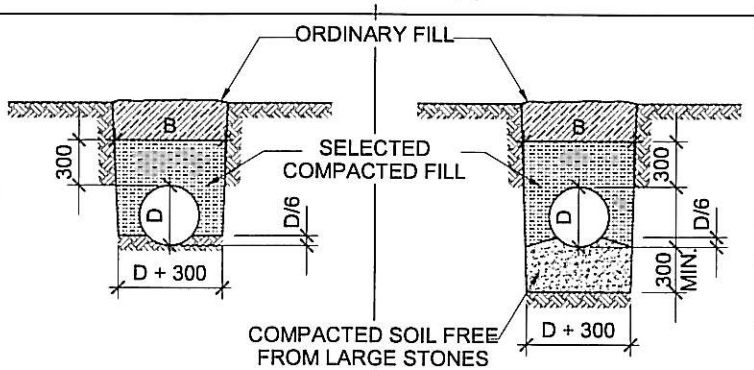
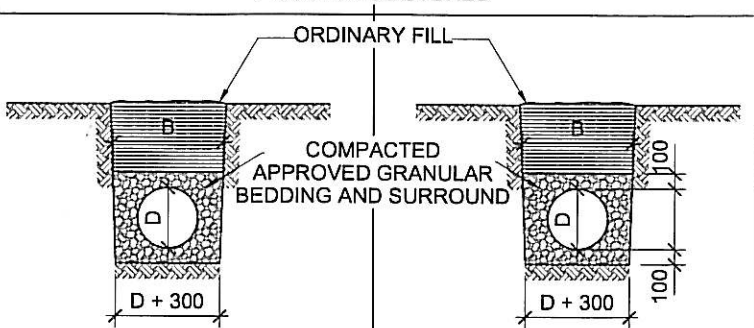
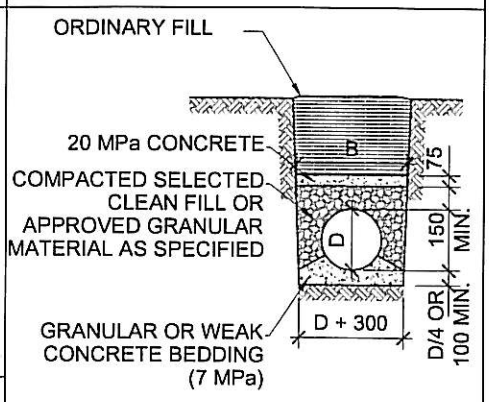
ANCHOR BLOCK DETAILS
(For pipe bedding steeper than 20%)

PIPE BEDDING IN TRENCH CONDITIONS

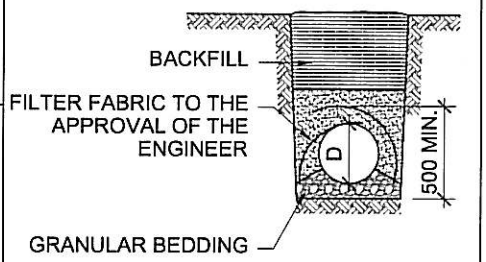
PIPE	BEDDING	TYPE OF FOUNDATION	
		EARTH (1)	ROCK OR ROCKY SOIL (2)
TYPE A	CONTINUOUS CONCRETE CRADLE		
TYPE B	COMPACTED GRANULAR MATERIAL		
TYPE C	SOIL BEDDING		
TYPE D	COMPACTED GRANULAR BEDDING & SURROUND FOR uPVC PIPES		

TYPE OF FOUNDATION	
EARTH (1)	ROCK OR ROCKY SOIL (2)



TYPE E

PROTECTIVE SLAB FOR PIPE LAID WITH LESS THAN 500 COVER



TYPE F

FILTER FABRIC ENCASEMENT FOR PIPES LAID ON WEAK FOUNDATION

NOTES

1. ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED.
2. EARTH: ALL MATERIAL OTHER THAN ROCK.
3. ROCK: AN UNYIELDING NATURAL FOUNDATION MATERIAL INCLUDES EARTH FOUNDATION CONTAINING STONE LARGER THAN 50mm.
4. CONTINUOUS CONCRETE CRADLE MEANS CONTINUOUS UNDER EACH PIPE LENGTH ONLY UNLESS THE PIPELINE INCLUDING CONCRETE CRADLE IS SPECIFICALLY DESIGNED FOR LOSS OF FLEXIBILITY AT PIPE JOINTS.
5. THE WIDTH OF THE TRENCH AT THE TOP OF THE PIPE BARREL (B) SHALL BE NO GREATER THAN D + 400 UNLESS SPECIFIED BY THE ENGINEER.

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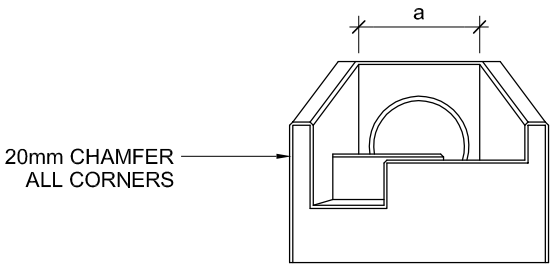
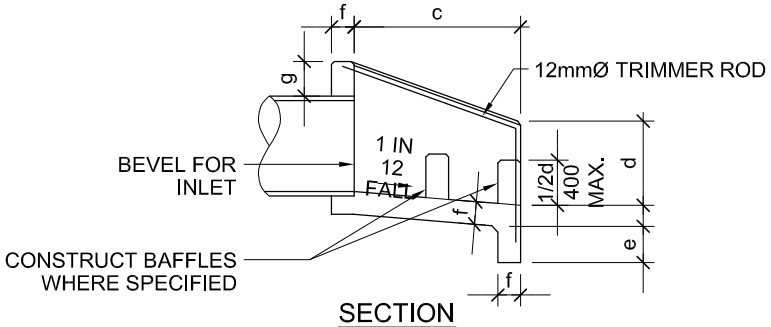
PIPE BEDDING



END ELEVATION



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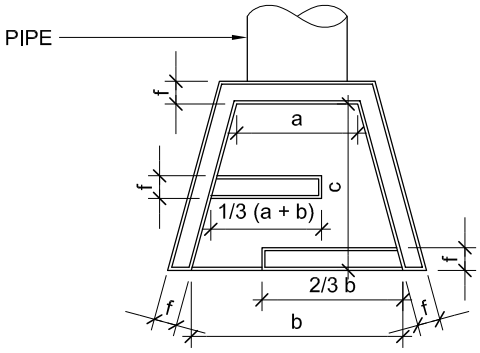
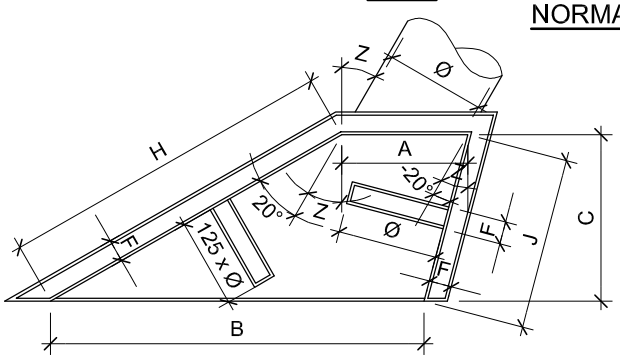


PLAN

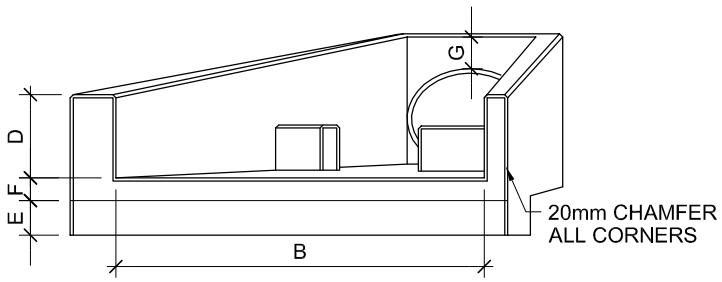
PRINCIPAL DIMENSIONS (mm)

DIA.OF PIPE	a	b	c	d	e	f	g
150	300	450	600	200	150	100	150
230	380	600	700	250	200	100	150
300	450	750	750	300	200	100	150
375	550	900	850	350	200	100	150
450	630	1100	900	400	230	150	230
525	700	1200	1000	450	230	150	230
600	800	1400	1100	550	230	150	230
750	1000	1700	1200	600	300	150	300
900	1170	2000	1450	650	300	150	300
1050	1380	2300	1700	750	450	150	300
1200	1520	2600	2100	750	450	150	450
1350	1680	2800	2400	750	450	150	450

NORMAL STRUCTURE



PLAN



END ELEVATION

SKEWED STRUCTURE

PRINCIPAL DIMENSIONS
- A. SEC z x (A) IN TABLE ABOVE
- B. (TAN (z + 20°) + (A-C TAN (z - 20°))
- C. SEE (C) TABLE ABOVE
- D. SEE (D) TABLE ABOVE
- E. SEE (E) TABLE ABOVE
- F. SEE (F) TABLE ABOVE
- G. SEE (G) TABLE ABOVE
- H. C x SEC (z + 20°)

NOTES
1. ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED.
2. REINFORCED FLOOR & WALLS WITH:
   150 - 375mm THICK 665 MESH
   450 - 600mm THICK 663 MESH OR 10mmø RODS @ 250mm CRS
   675 - 900mm THICK 12mmø RODS @ 250mm CRS
   1050 - 1350mm THICK 12mmø RODS @ 150mm CRS
3. ALL REINFORCEMENT SHALL BE PLACED CENTRALLY IN WALLS AND FLOOR, AND SHALL BE CONTINUOUS BETWEEN WALLS AND FLOOR.
4. LAPS IN STRUCTURAL GRADE BARS TO BE 300mm MIN.
5. THERE SHALL BE AT LEAST TWO BARS - WHETHER MESH OR M.S. OVER TOP OF PIPE.
6. CONCRETE IS TO BE ORDINARY GRADE (20MPa) IN ACCORDANCE WITH NZS 3109 AND NZS 3114.
7. BAFFLES ARE TO BE CONSTRUCTED AS SHOWN WHEN OUTLET VELOCITIES AND SOIL CONDITIONS DICTATE, IN EXTREME CASES SPECIFIC DESIGN MAY BE REQUIRED BY THE ENGINEER.
8. INLET STRUCTURES SHALL HAVE REVERSE APRON FALL AND NO BAFFLES.
9. FOR PIPE SIZES GREAT THAN 1350ø, INLET AND OUTLET STRUCTURES SHALL BE SPECIFICALLY DESIGNED.
10. PRECAST WING WALLS MAY BE USED FOR INLET OR OUTLET STRUCTURES.
11. UNLESS THE FLOW VELOCITIES AND SOIL CONDITIONS AT THE INLET OR OUTLET ARE SUCH THAT NO EROSION WILL OCCUR, PROPER CHANNEL EROSION PROTECTION SUCH AS RIP RAP SHALL BE INSTALLED. THE LENGTH OF EROSION PROTECTION SHALL BE NO LESS THAT 5XØ OR DETERMINED BASED ON CHAPTER 13 OF TP10 (ARC, 2003).

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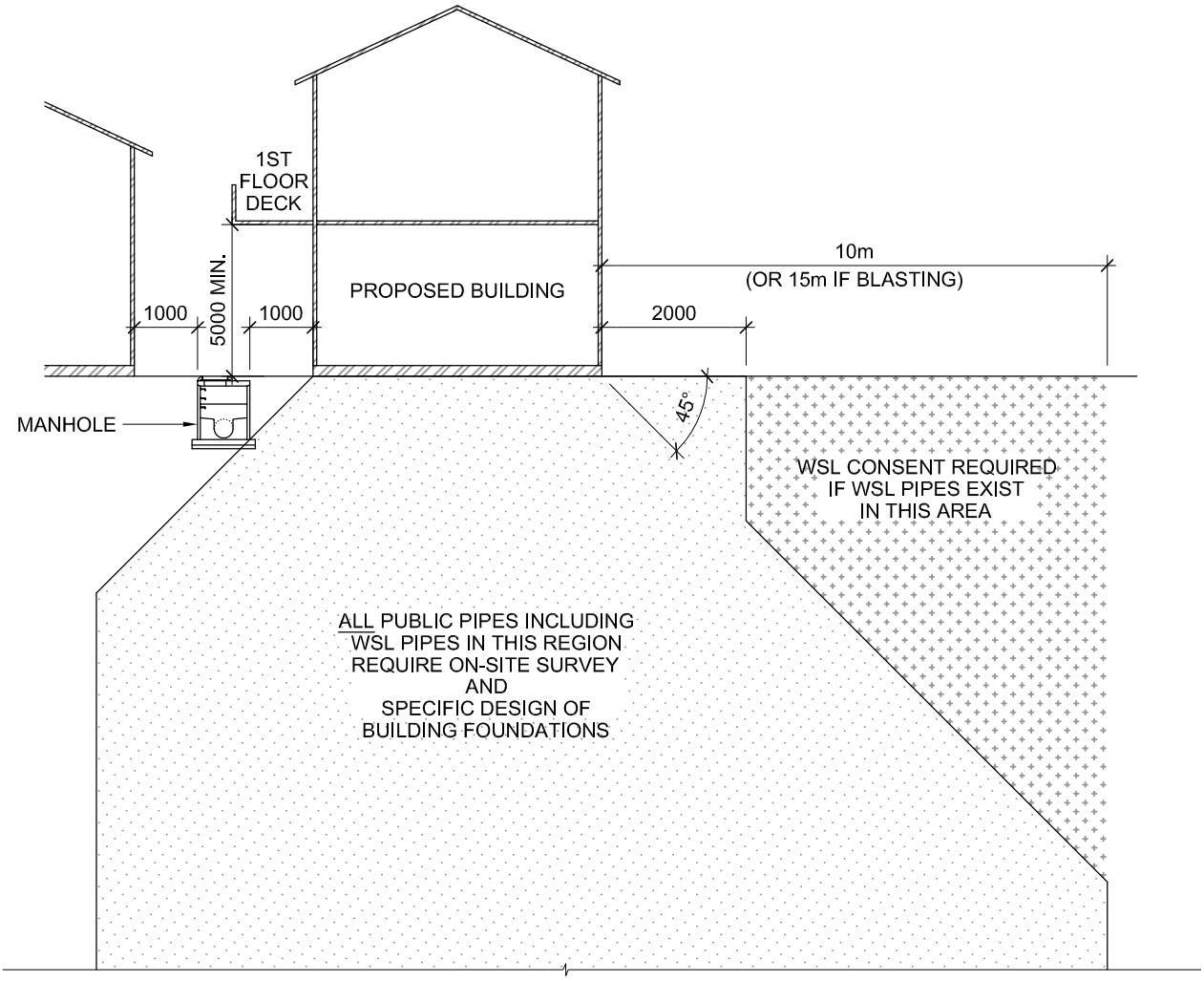
INLET AND OUTLET STRUCTURES



BUILDING CLOSE TO PUBLIC DRAINS

NOTES

1. ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED.

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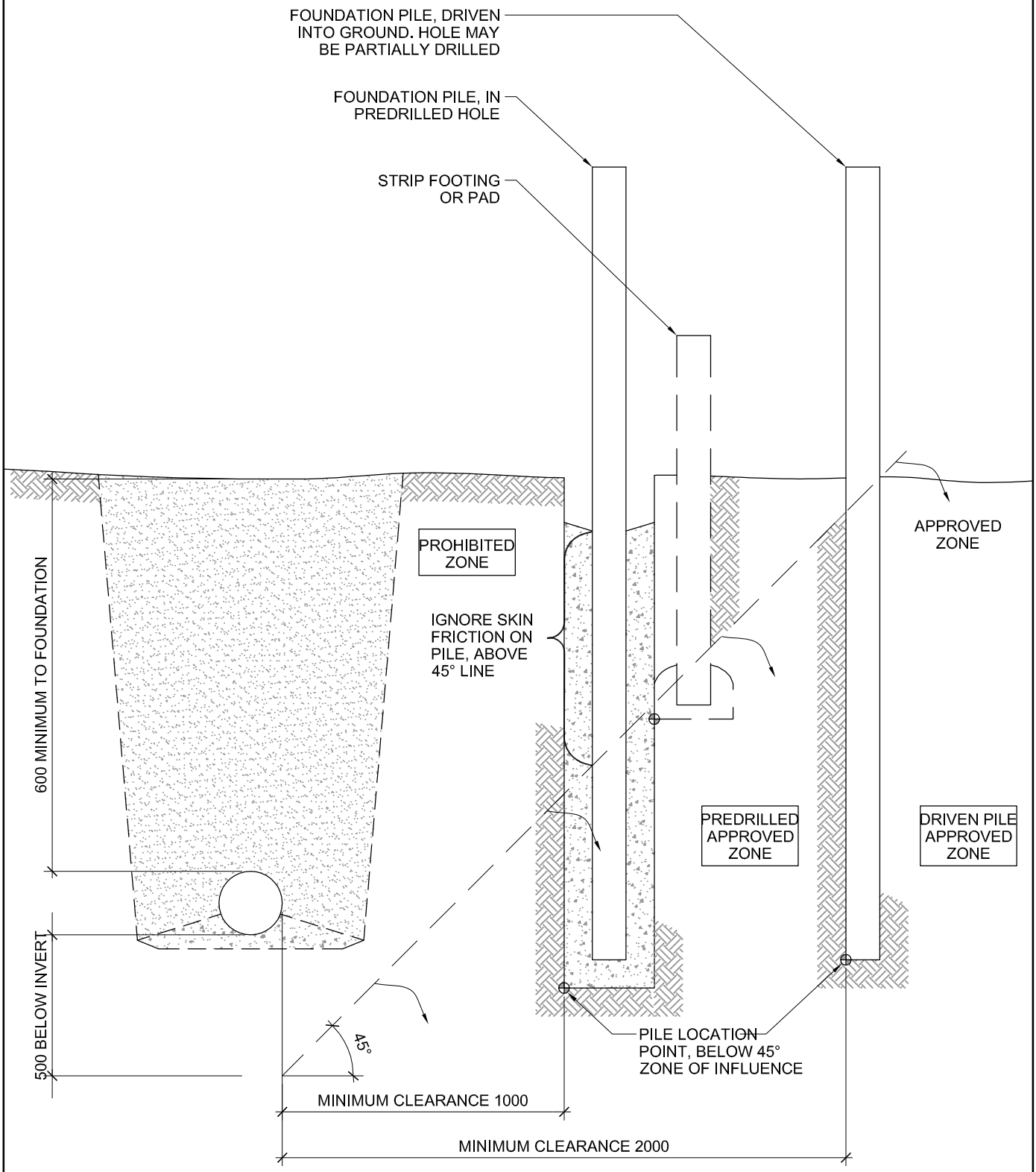
BUILD OVER INFLUENCE ZONE AND CLEARANCES TO MANHOLES



NOTES

1. ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED.

PAPAKURA DISTRICT COUNCIL

DATE ISSUED: JUNE 2009

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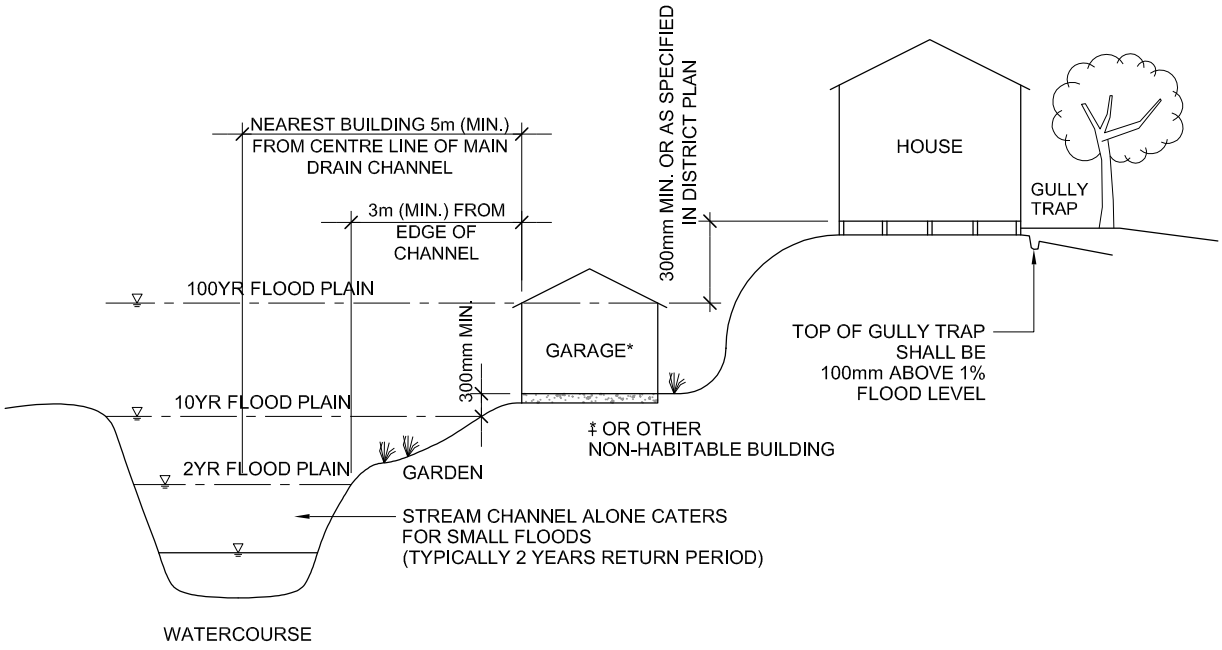
FOUNDATION/PIPE CLEARANCES FOR BUILDING CLOSE TO PUBLIC DRAINS



GUIDELINES FOR WATERCOURSES AND FLOODPLAINS

- ACCESS TO DWELLING TO BE ABOVE THE 2 YEAR FLOOD PLAIN

- NO BUILDING OR OBSTRUCTIONS TO BE PLACED IN 10 YEAR FLOOD PLAIN UNLESS SPECIFIC APPROVAL FROM PDC IS OBTAINED.

- AEP - ANNUAL EXCEEDENCE PROBABILITY. 1% AEP 1 in 100 years, 10% AEP 1 in 10 years, 50% AEP 1 in 2 years

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DATE ISSUED: JUNE 2009

DWG NO: SW - 19

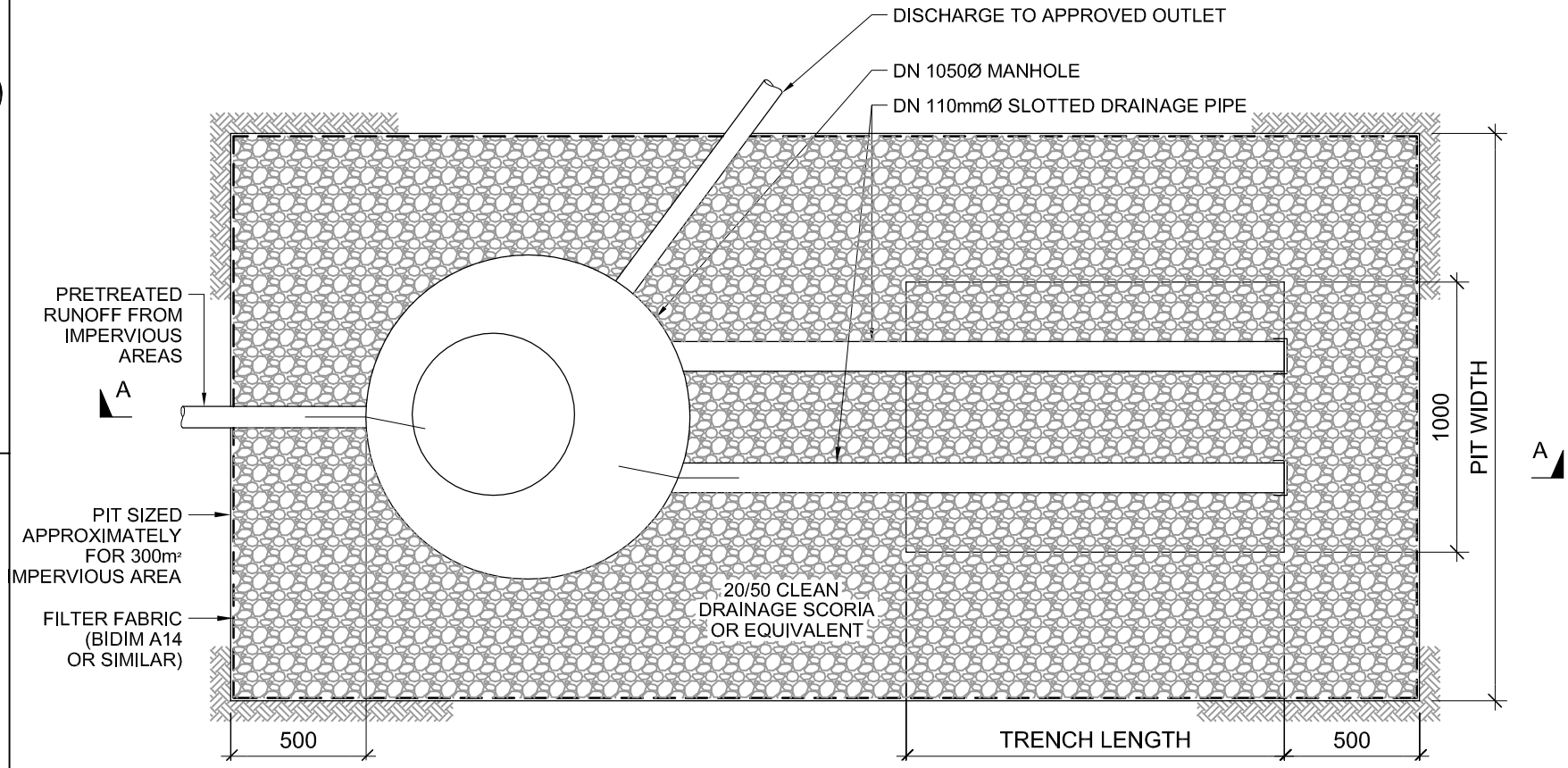
MINIMUM FREEBOARD REQUIREMENTS FOR BUILDING ADJACENT TO FLOODPLAINS

PAPAKURA DISTRICT COUNCIL

DATE ISSUED: JUNE 2009

DWG NO: SW - 20

GROUNDWATER RECHARGE PIT FOR PEAT AREAS (PLAN)



NOTES

1. ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED.
2. PRIVATE SW CONNECTION PIPES LAID WITH <600mm COVER REQUIRE CONCRETE PROTECTION.
3. MANHOLE INSTALLATION AND SW CONNECTION TO PUBLIC SYSTEM AS PER THE RELEVANT PARTS OF THE PDC DEVELOPMENT CODE.
4. LEAF TRAP TO BE INSTALLED IN ROOF GUTTERS.
5. ALL SCORIA/SOIL INTERFACES TO BE LINED WITH FILTER FABRIC (BIDIM A14 OR SIMILAR).
6. RECHARGE PITS MUST NOT BE LOCATED WITHIN 3.0m OF BUILDINGS OR BOUNDARIES, OR 2.0m OF SANITARY SEWERS.
7. 20mmø HOLES IN MH CHAMBER TO BE DRILLED AT 300mm HORIZONTAL SPACING AND 150mm VERTICAL SPACING.
8. DEVICE DIMENSIONS TO BE SIZED IN ACCORDANCE WITH SW-22.

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DATE ISSUED: JUNE 2009

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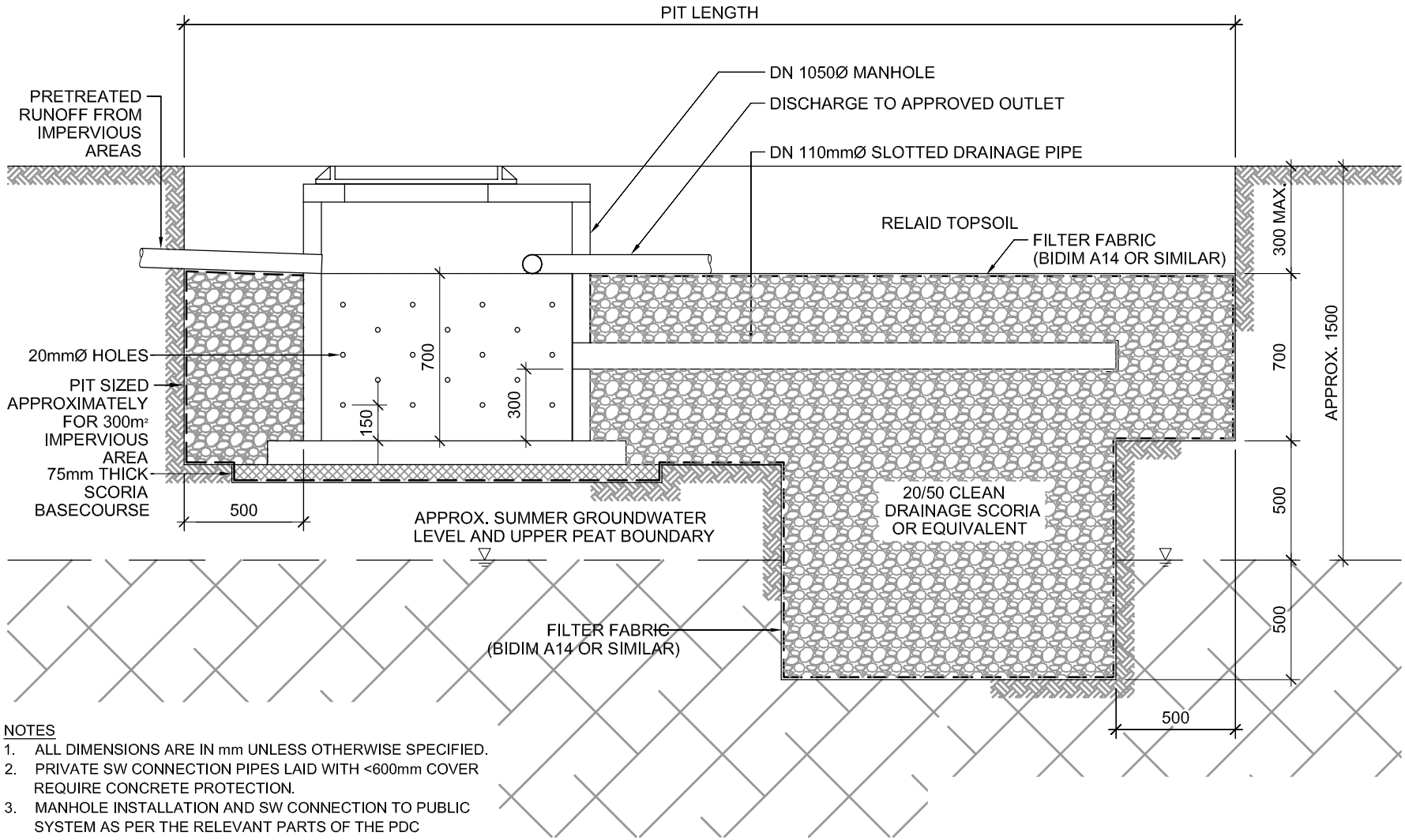
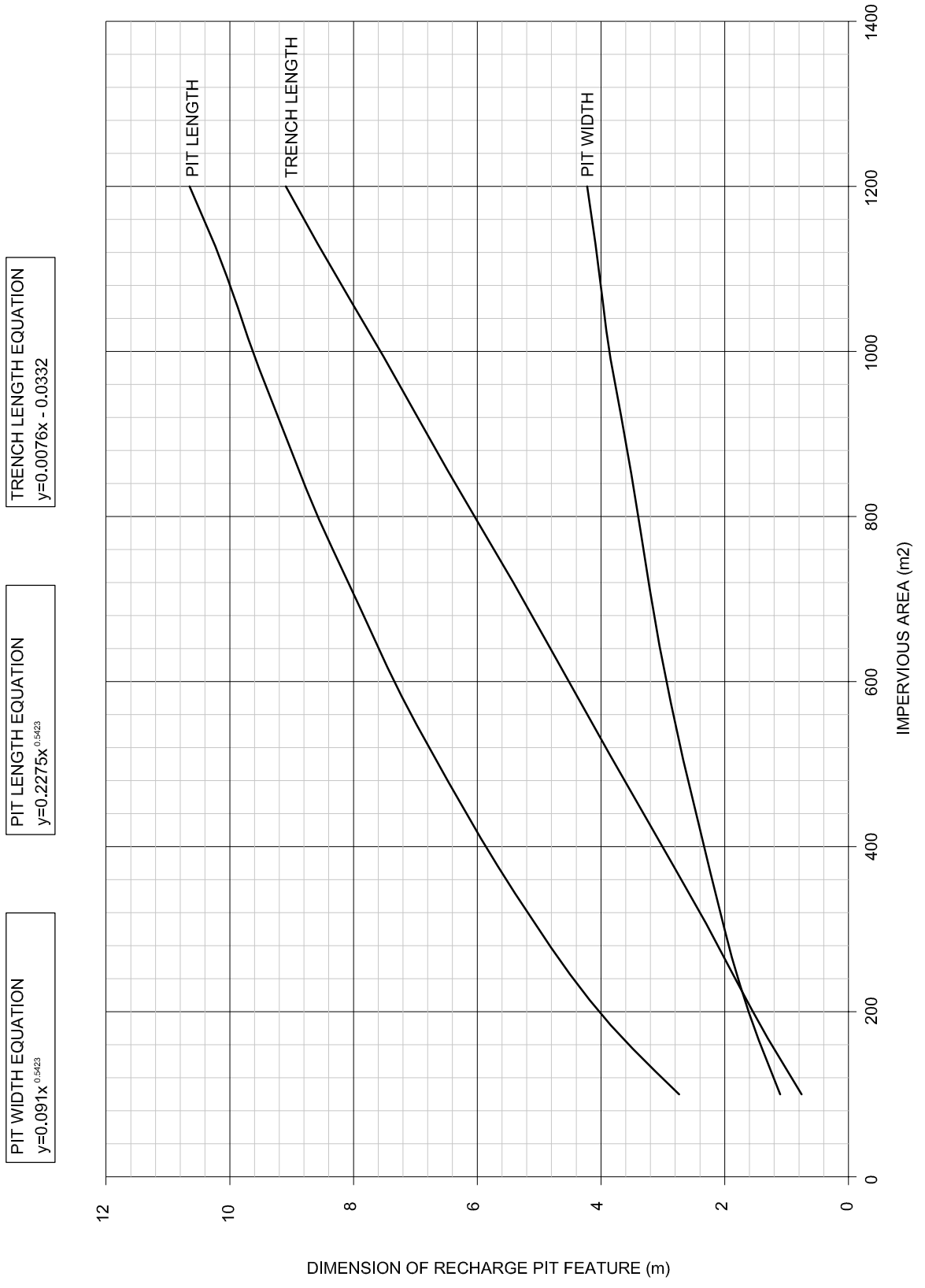
GROUNDWATER RECHARGE PIT FOR PEAT AREAS (CROSS SECTION)



SECTION A-A

NOTES

1. ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED.
2. PRIVATE SW CONNECTION PIPES LAID WITH <600mm COVER REQUIRE CONCRETE PROTECTION.
3. MANHOLE INSTALLATION AND SW CONNECTION TO PUBLIC SYSTEM AS PER THE RELEVANT PARTS OF THE PDC DEVELOPMENT CODE.
4. LEAF TRAP TO BE INSTALLED IN ROOF GUTTERS.
5. ALL SCORIA/SOIL INTERFACES TO BE LINED WITH FILTER FABRIC (BIDIM A14 OR SIMILAR).
6. RECHARGE PITS MUST NOT BE LOCATED WITHIN 3.0m OF BUILDINGS OR BOUNDARIES, OR 2.0m OF SANITARY SEWERS.
7. 20mmø HOLES IN MH CHAMBER TO BE DRILLED AT 300mm HORIZONTAL SPACING AND 150mm VERTICAL SPACING.
8. DEVICE DIMENSIONS TO BE SIZED IN ACCORDANCE WITH SW-22.



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DATE ISSUED: DEC 2009

DWG NO: SW - 22

RECHARGE PIT FEATURE DIMENSIONS V IMPERVIOUS AREA