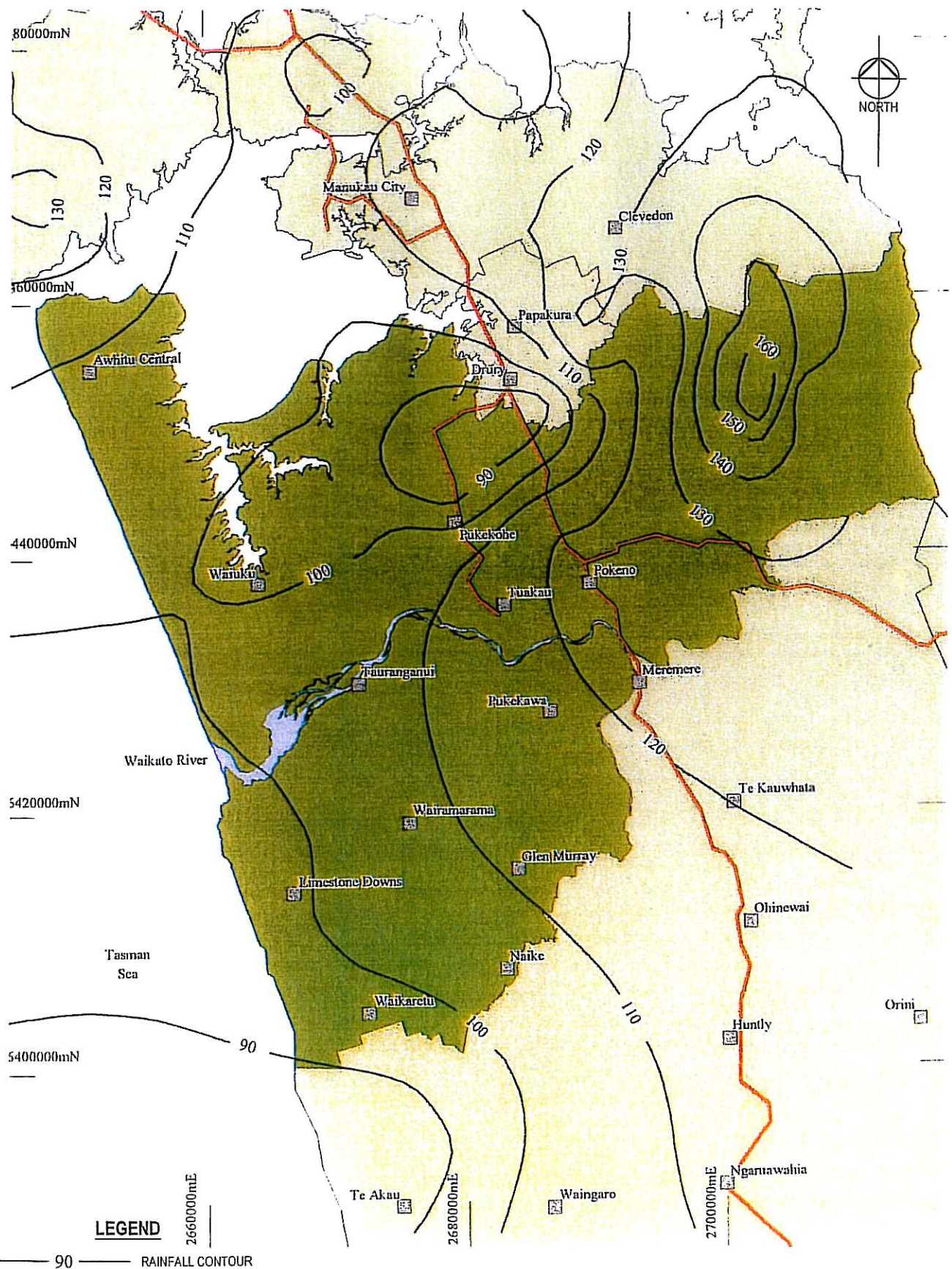




Franklin
DISTRICT COUNCIL

DATE:

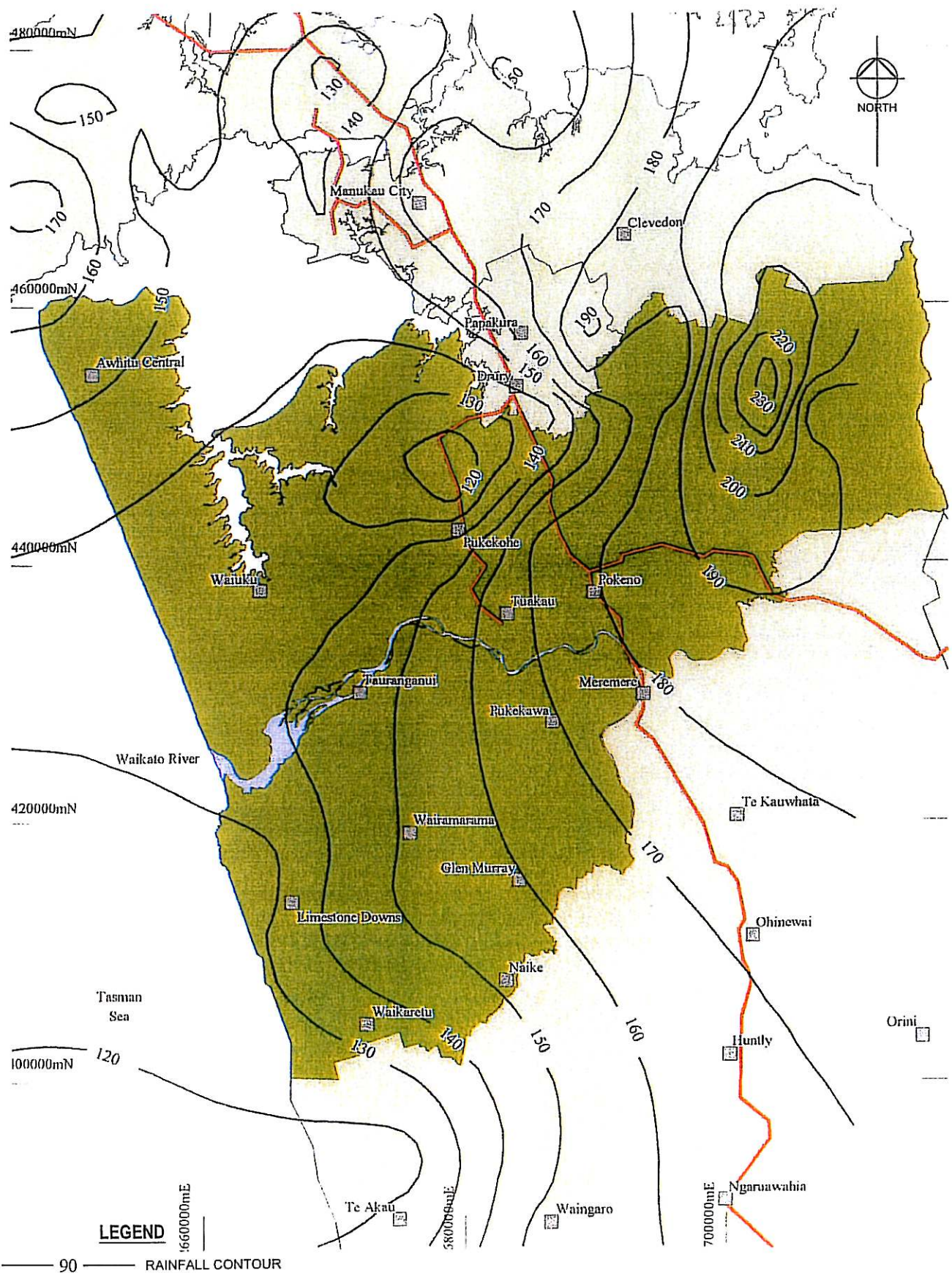
AUGUST 2010

No:

SW 1

STANDARD DETAIL

DAILY RAINFALL DEPTH
20% AEP



Franklin
DISTRICT COUNCIL

DATE:

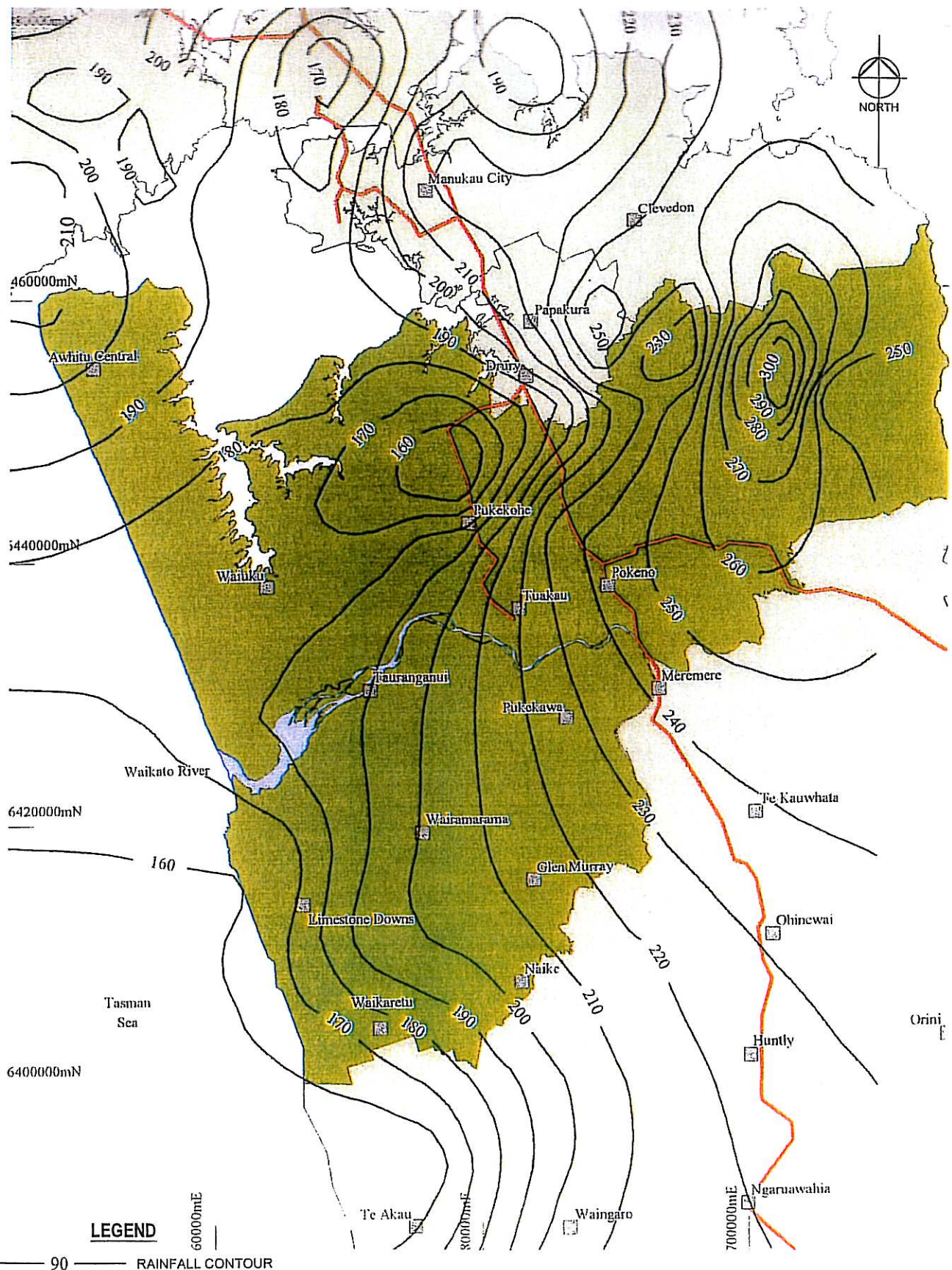
AUGUST 2010

No:

SW 2

STANDARD DETAIL

DAILY RAINFALL DEPTH
5% AEP



Franklin
DISTRICT COUNCIL

DATE:

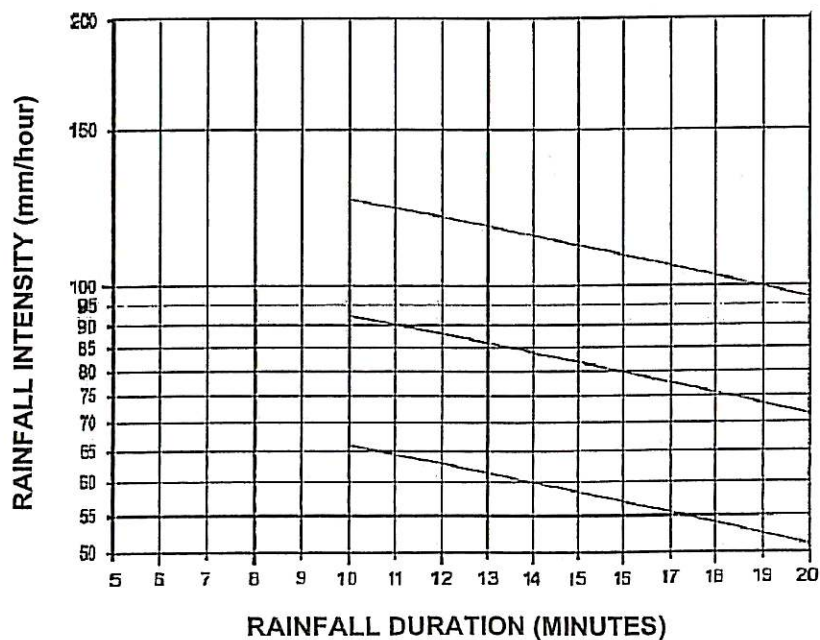
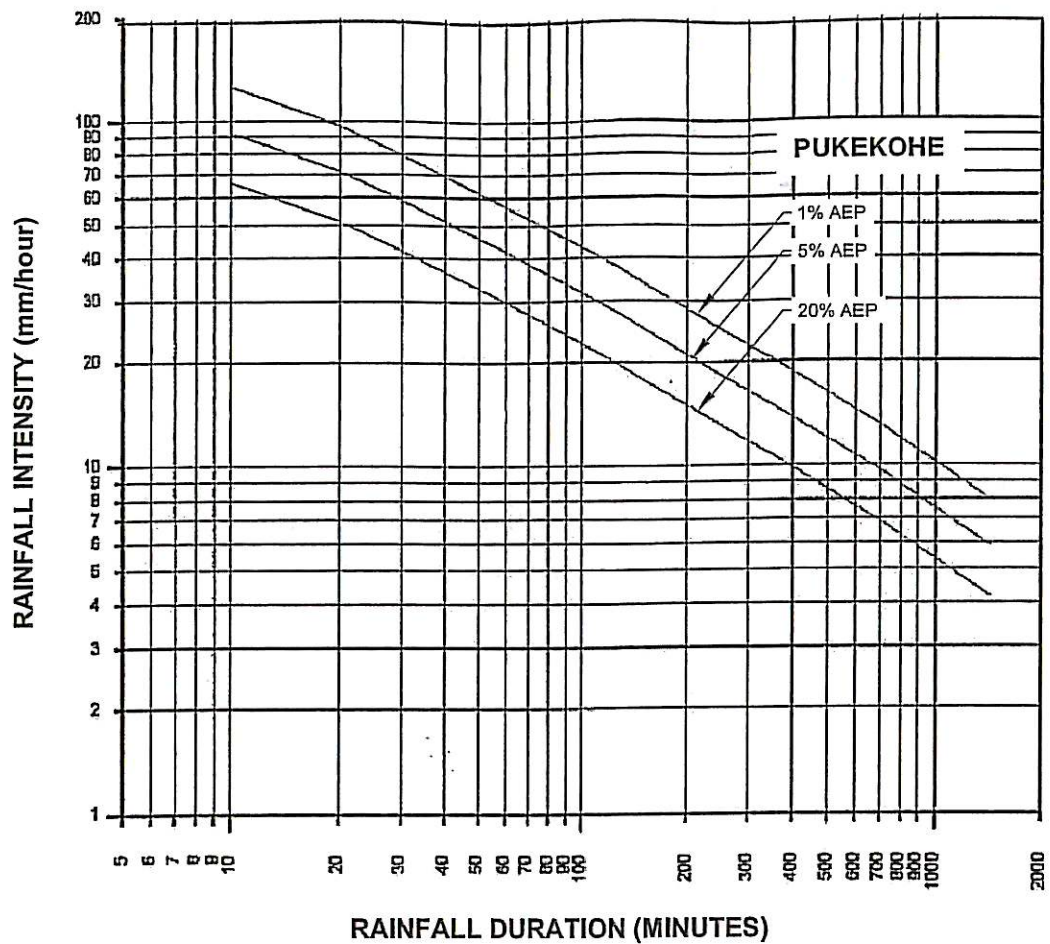
AUGUST 2010

No:

SW 3

STANDARD DETAIL

DAILY RAINFALL DEPTH
1% AEP



SOURCE:
TP 108 RAINFALL STUDY
BECA CARTER
FEB 2000



Franklin
DISTRICT COUNCIL

DATE:

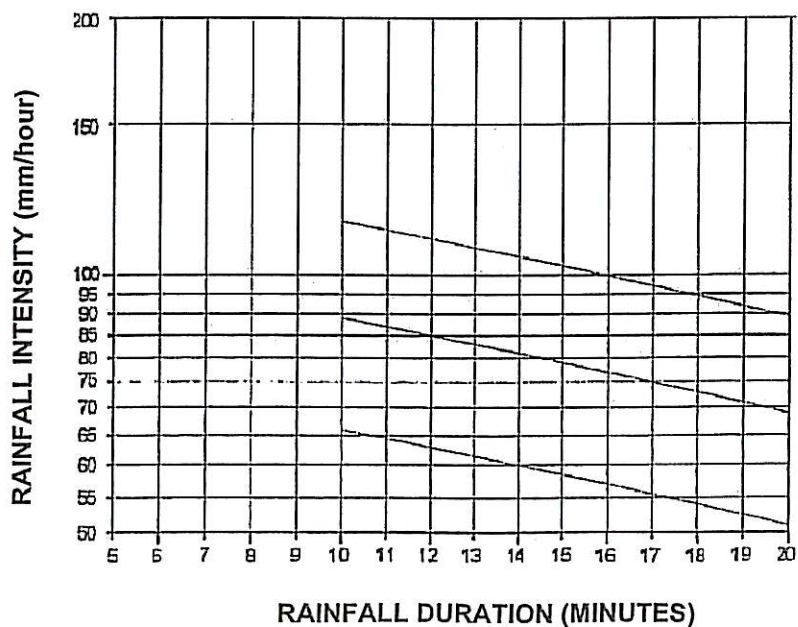
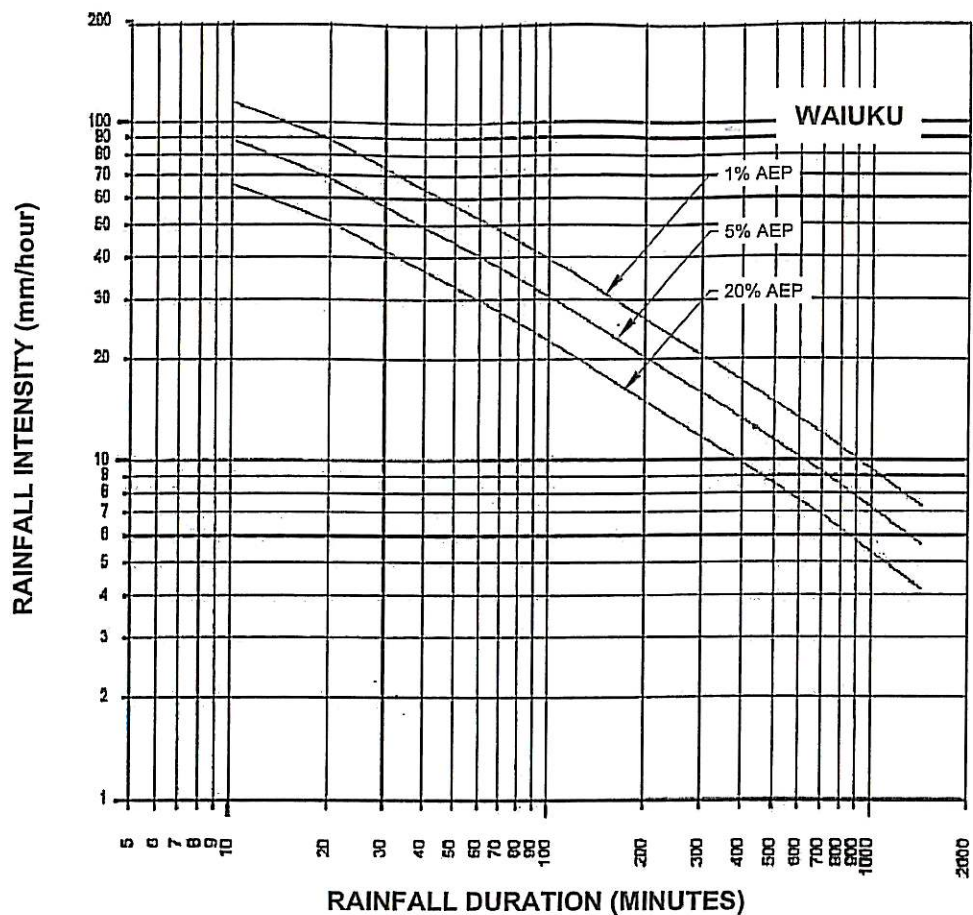
AUGUST 2010

No:

SW4

STANDARD DETAIL

DESIGN RAINFALL CURVES PUKEKOHE



SOURCE:
TP 108 RAINFALL STUDY
BECA CARTER
FEB 2000



Franklin
DISTRICT COUNCIL

DATE:

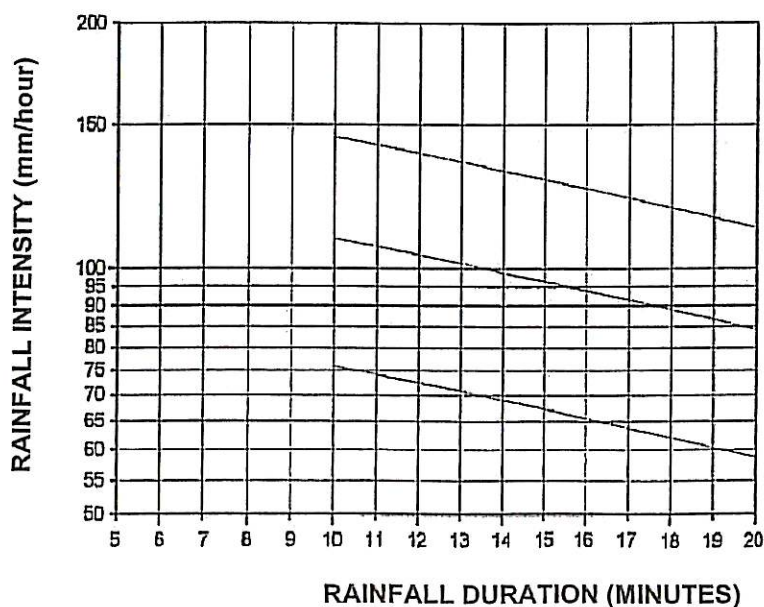
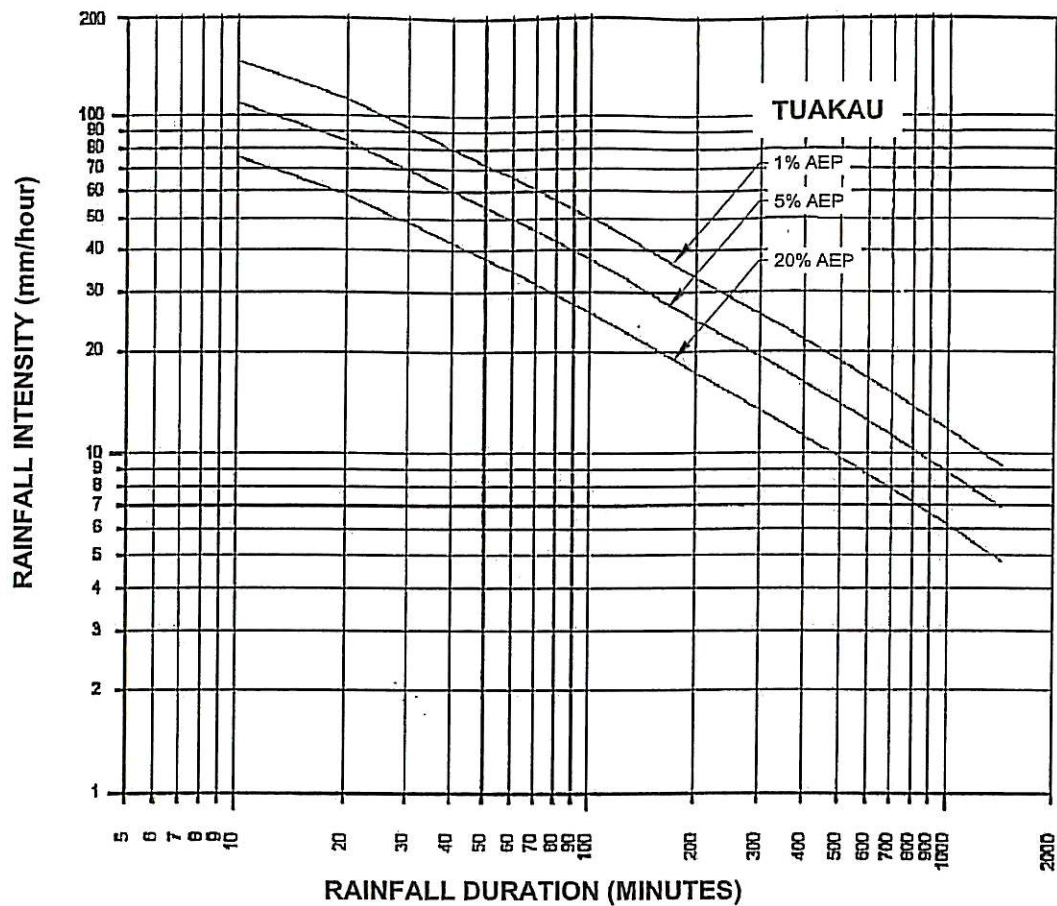
AUGUST 2010

No:

SW5

STANDARD DETAIL

DESIGN RAINFALL CURVES WAIUKU



SOURCE:
TP 108 RAINFALL STUDY
BECA CARTER
FEB 2000



Franklin
DISTRICT COUNCIL

DATE:

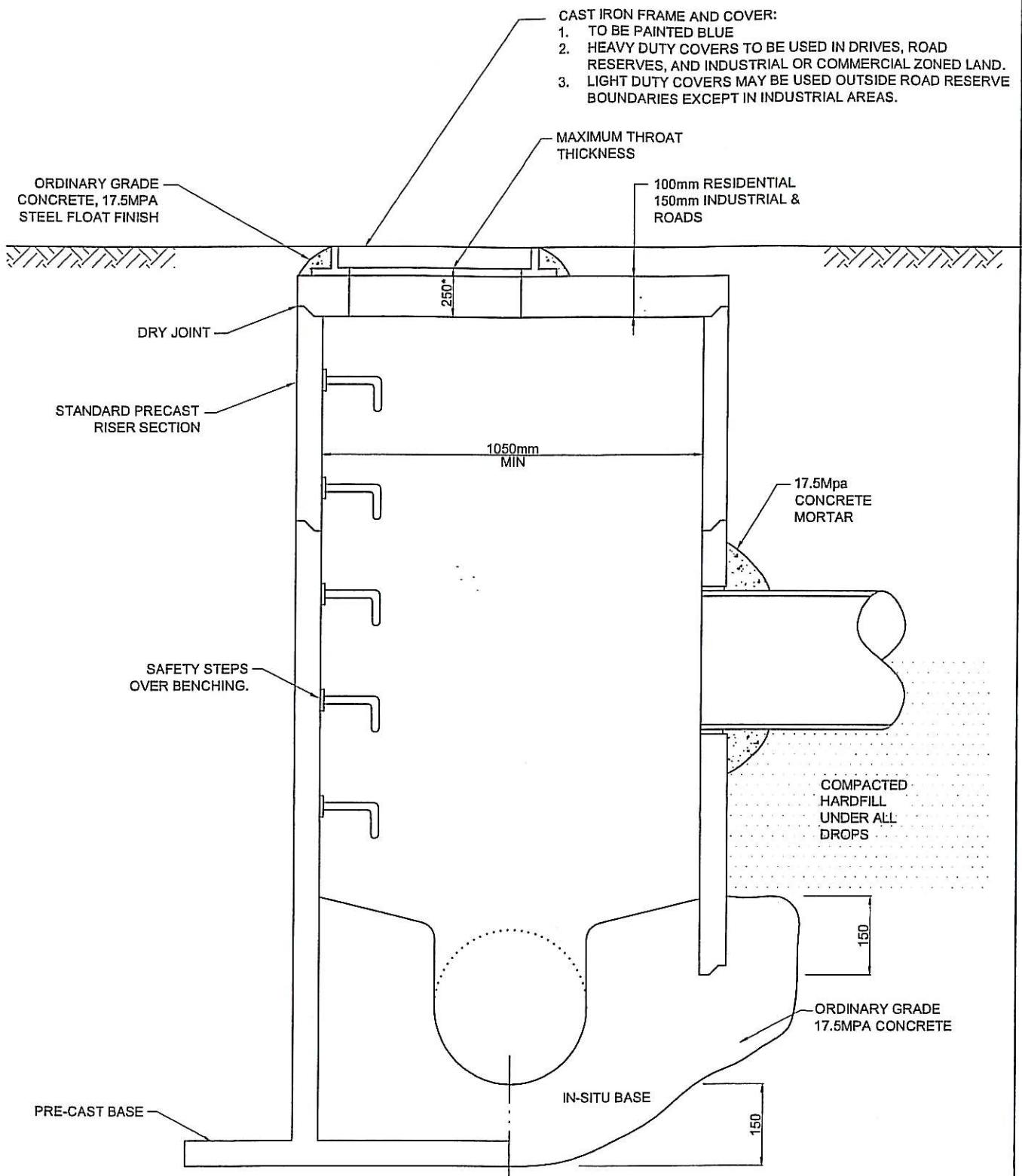
AUGUST 2010

No:

SW6

STANDARD DETAIL

DESIGN RAINFALL CURVES TUAKAU



NOTES:-

1. FOR PIPES GREATER THAN 600mm Dia, MANHOLES ARE TO BE SPECIFICALLY DESIGNED.
2. FOR PIPES 1200mm Dia & GREATER, MANHOLES TO BE FACTORY FABRICATED, BENDS WITH RISER OFF-TAKER.

* MAY INCREASE TO 350 WITH HEAVY DUTY LIDS WHERE FIXED SURFACE LEVELS ARE TO BE MATCHED.



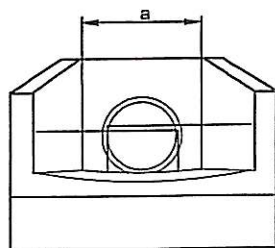
Franklin
DISTRICT COUNCIL

STANDARD DETAIL

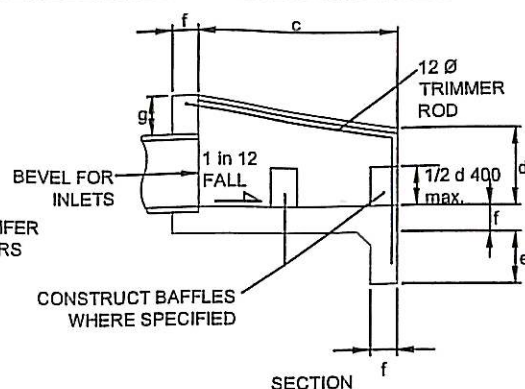
STORMWATER MANHOLE DETAILS

DATE: APRIL 2009

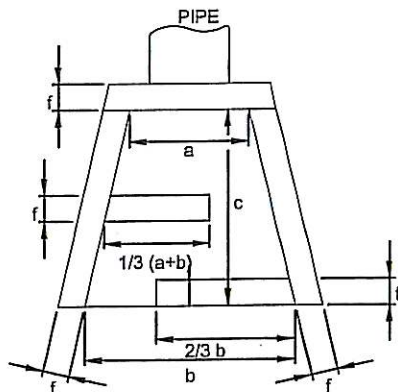
No: SW 11



END ELEVATION



SECTION

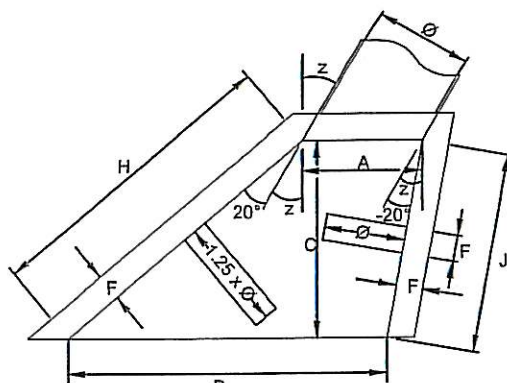


PLAN

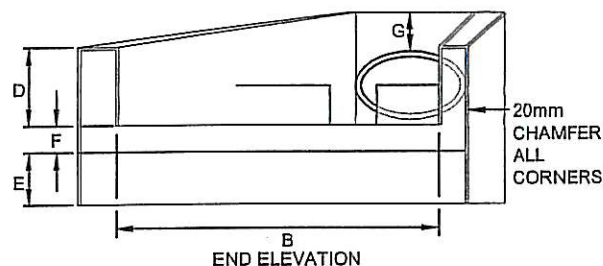
PRINCIPAL DIMENSIONS (mm)

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

NOTES:

1. REINFORCED FLOOR & WALLS WITH: 150 - 375Ø 665 MESH; 600Ø 663 MESH OR 10mm Ø RODS @ 250mm CRS; 450 - 900Ø 12mm Ø RODS @ 250mm CRS; 675 - 1350Ø 12mm Ø RODS @ 150mm CRS 1050.
2. ALL REINFORCEMENT SHALL BE PLACED CENTRALLY IN WALLS AND FLOOR, AND SHALL BE CONTINUOUS BETWEEN WALLS AND FLOOR.
3. LAPS IN STRUCTURAL GRADE BARS TO BE 300mm MIN.
4. THERE SHALL BE AT LEAST TWO BARS - WHETHER MESH OR M.S. OVER TOP OF PIPE.
5. CONCRETE IS TO BE ORDINARY GRADE (20 MPa) IN ACCORDANCE WITH NZS 3109 AND NZS 3114.
6. 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.
7. INLET STRUCTURES SHALL HAVE REVERSE APRON FALL AND NO BAFFLES.
8. FOR PIPE SIZES GREATER THAN 1350Ø, INLET AND OUTLET STRUCTURES SHALL BE SPECIFICALLY DESIGNED.

PRINCIPAL DIMENSIONS

- A. SEC (z x (a) IN THE TABLE ABOVE
- B. C X 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°)
- I. C x SEC (z - 20°)

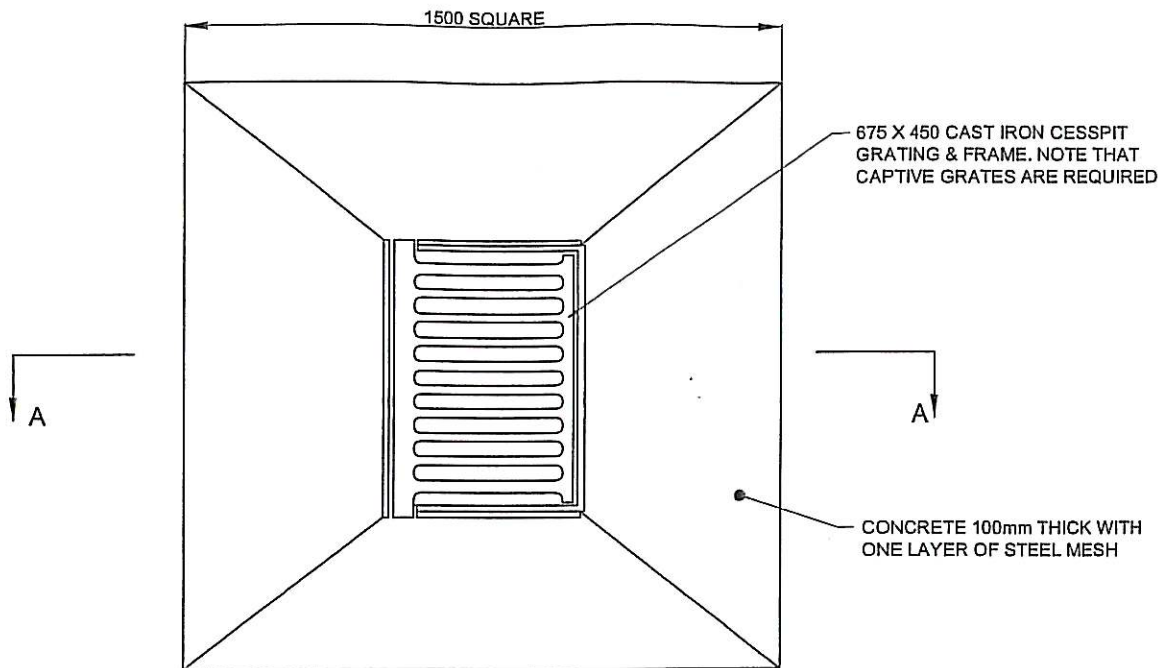


STANDARD DETAIL

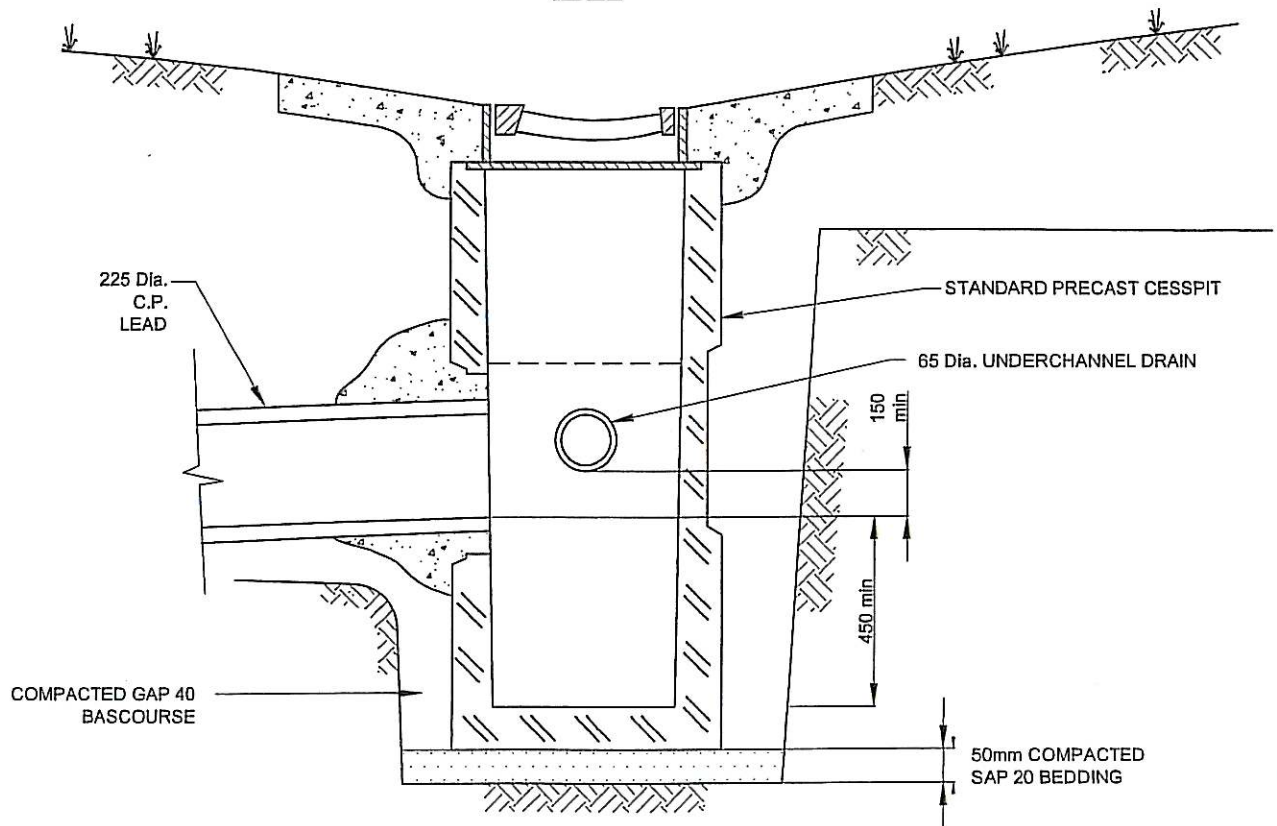
DATE: APRIL 2009

No: SW 12

INLET AND OUTLET STRUCTURES



PLAN



SECTION A-A

NOTES:

1. ALL CONCRETE TO BE ORDINARY GRADE, 17.5MPa AT 28 DAYS
2. ALL PIPES TO BE FINISHED FLUSH WITH INSIDE WALL OF CESSPIT.



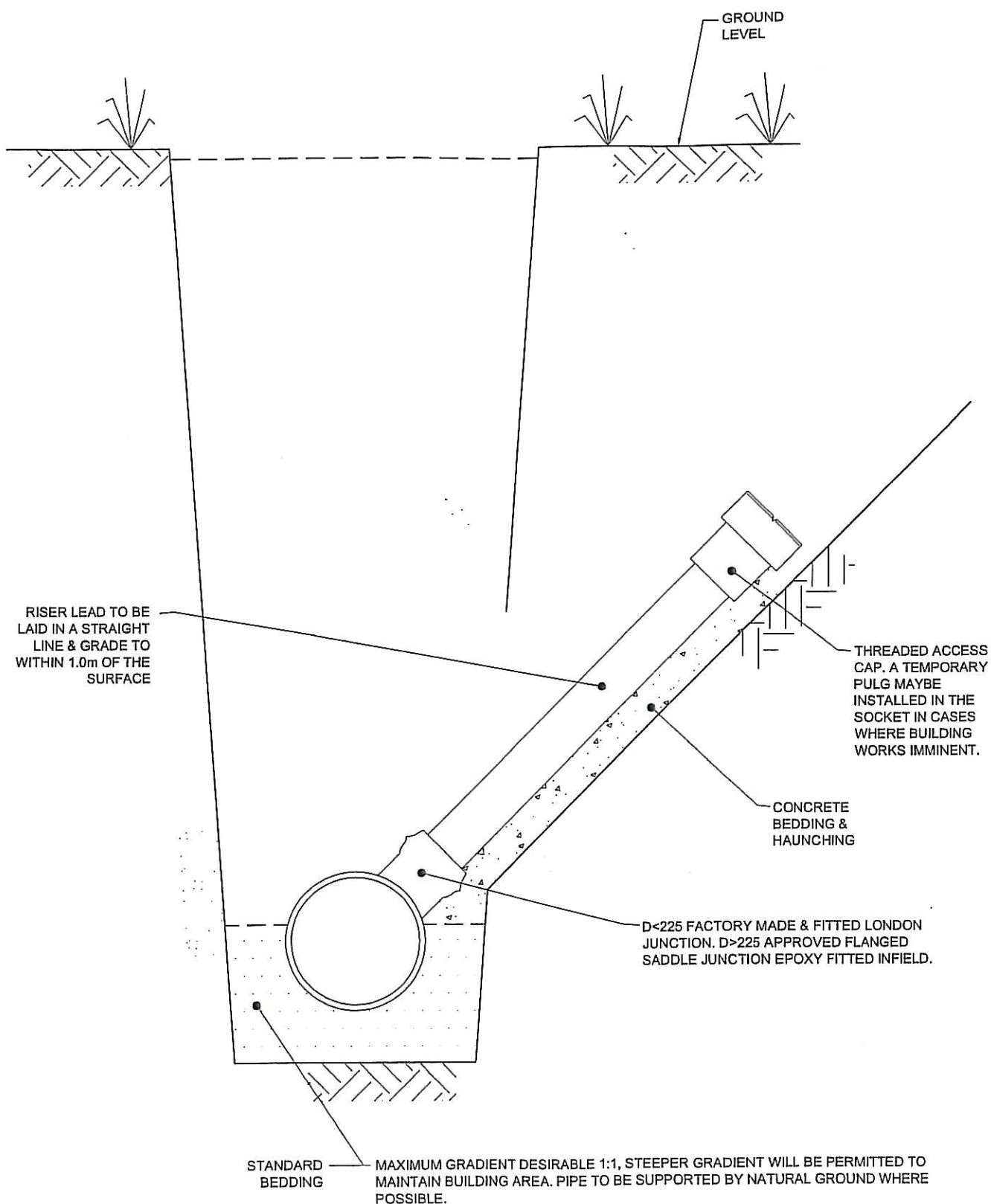
Franklin
DISTRICT COUNCIL

STANDARD DETAIL

FIELD CESSPIT

DATE: APRIL 2009

No: SW 13



Franklin
DISTRICT COUNCIL

DATE:

APRIL 2009

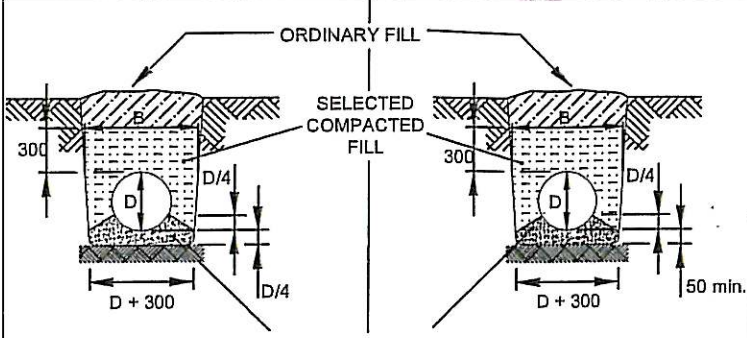
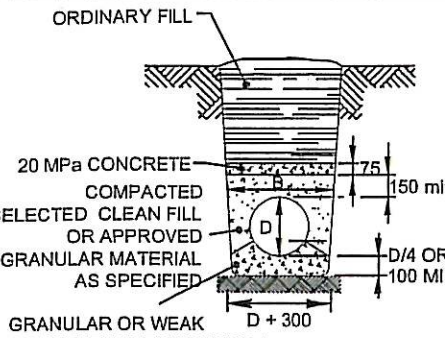
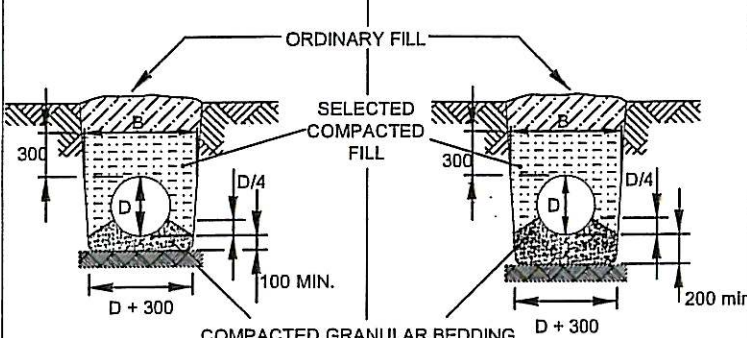
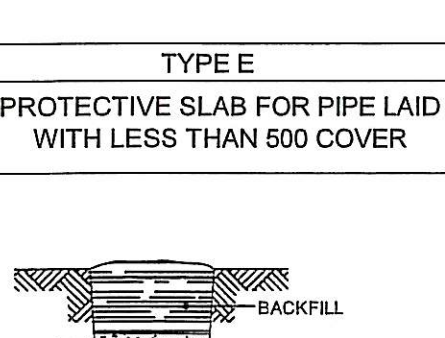
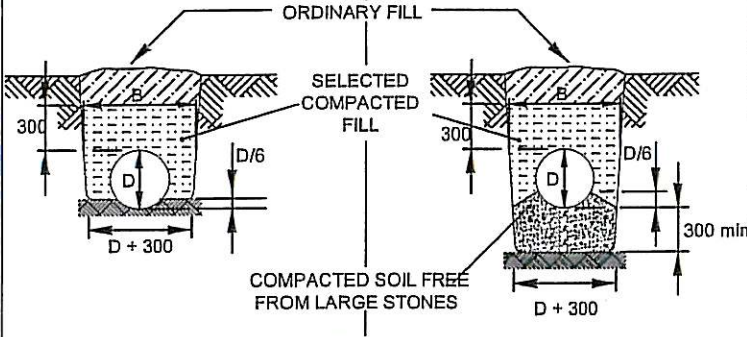
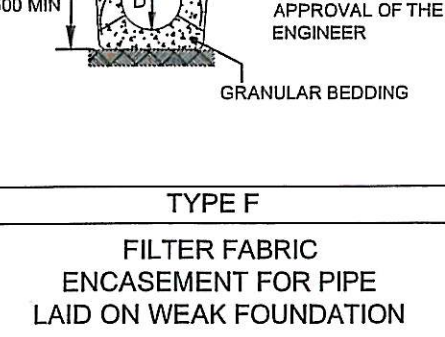
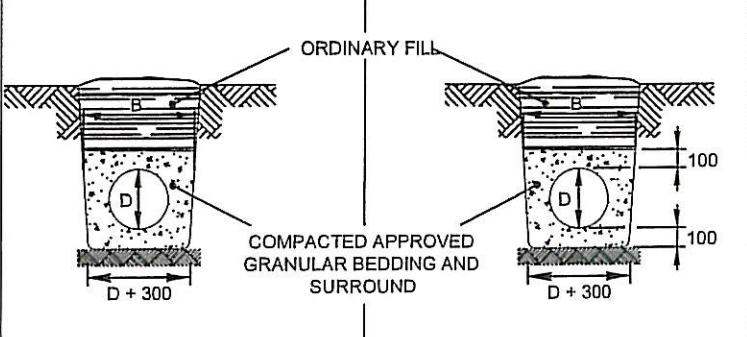
No:

SW 14

STANDARD DETAIL

STORMWATER HOUSE CONNECTIONS

PIPE BEDDING IN TRENCH CONDITIONS

PIPE	BEDDING	TYPE OF FOUNDATION		TYPE OF FOUNDATION	
		EARTH (1)	ROCK OR ROCKY SOIL (2)	EARTH (1)	ROCK OR ROCKY SOIL (2)
TYPE A	CONTINUOUS CONCRETE CRADLE	 ORDINARY FILL SELECTED COMPACTED FILL 7.5 MPa WEAK CONCRETE BEDDING		 ORDINARY FILL 20 MPa CONCRETE COMPACTED SELECTED CLEAN FILL OR APPROVED GRANULAR MATERIAL AS SPECIFIED GRANULAR OR WEAK CONCRETE BEDDING (7MPa)	
		 ORDINARY FILL SELECTED COMPACTED FILL COMPACTED GRANULAR BEDDING		TYPE E PROTECTIVE SLAB FOR PIPE LAID WITH LESS THAN 500 COVER  BACKFILL 500 MIN GRANULAR BEDDING	
TYPE C	SOIL BEDDING	 ORDINARY FILL SELECTED COMPACTED FILL COMPACTED SOIL FREE FROM LARGE STONES		TYPE F FILTER FABRIC ENCASUREMENT FOR PIPE LAID ON WEAK FOUNDATION  500 MIN GRANULAR BEDDING	
		 ORDINARY FILL COMPACTED APPROVED GRANULAR BEDDING AND SURROUND		NOTE: 1. EARTH : ALL MATERIAL OTHER THAN ROCK. 2. ROCK: AN UNYIELDING NATURAL FOUNDATION MATERIAL INCLUDES EARTH FOUNDATION CONTAINING STONE LARGER THAN 50mm. 3. 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. 4. THE WIDTH OF THE TRENCH AT THE TOP OF OF THE PIPE BARREL (B) SHALL BE NO GREATER THAN D + 400 UNLESS SPECIFIED BY THE ENGINEER. ALL DIMENSIONS ON THIS PLAN ARE SHOWN IN MILLIMETRES	
TYPE D	SURROUND FOR U.P.V.C. PIPES. COMPACTED GRANULAR BEDDING &				

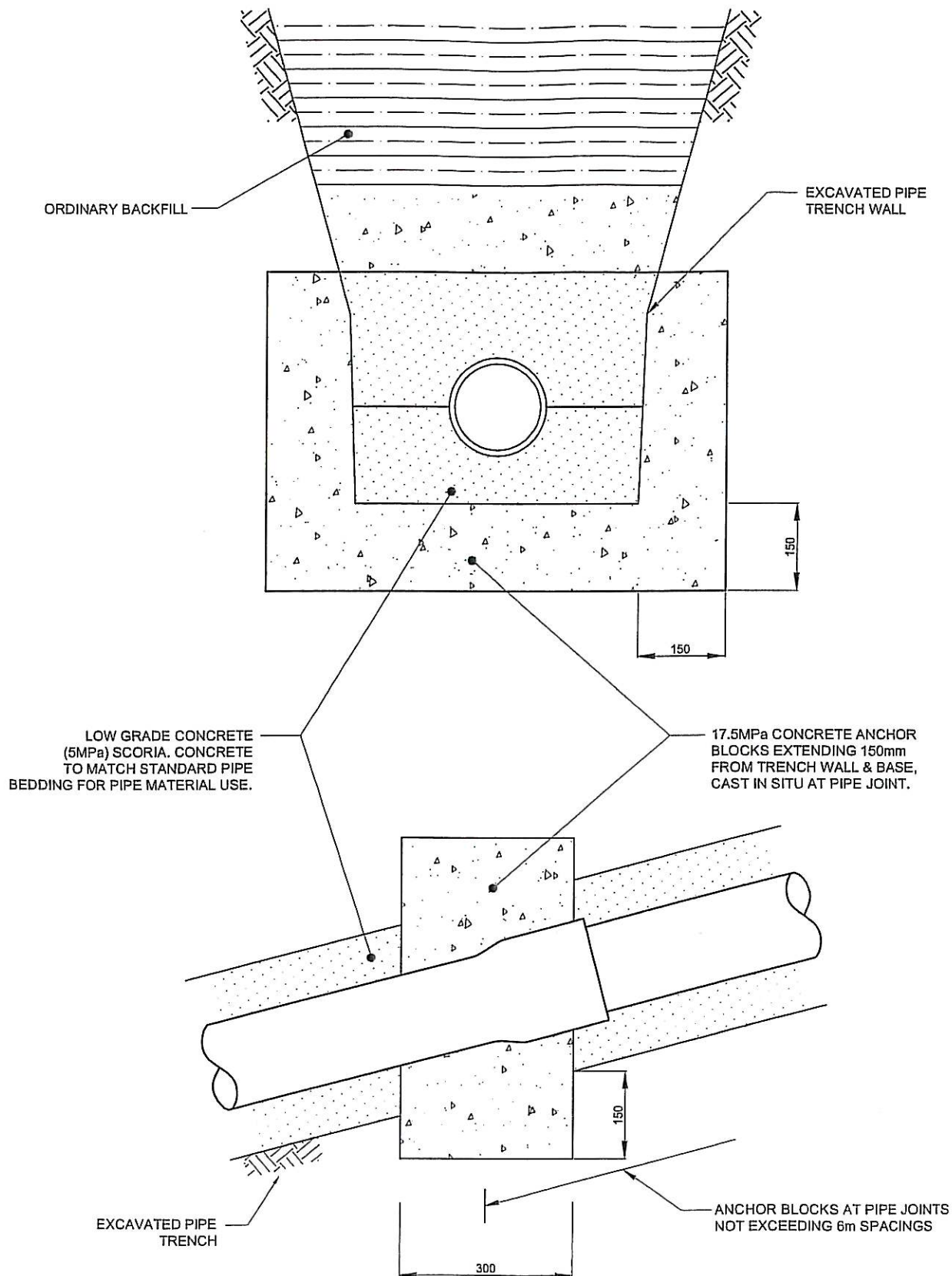


STANDARD DETAIL

PIPE BEDDING

DATE: APIRL 2009

No: SW 15



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DISTRICT COUNCIL

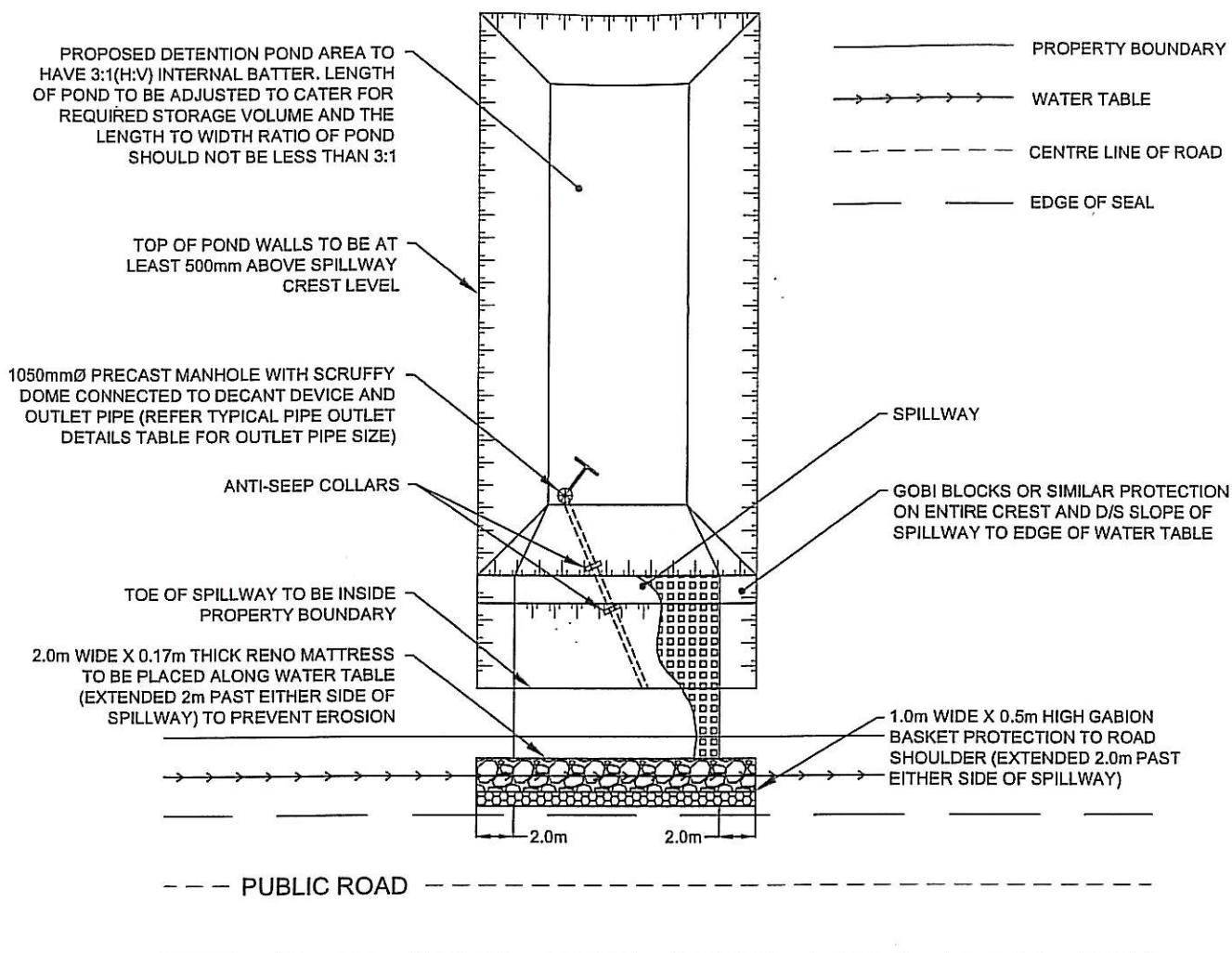
DATE: APRIL 2009

No: SW 16

STANDARD DETAIL

ANCHOR BLOCK DETAILS

KEY



PLAN

SCALE: 1:250 @ A4

TYPICAL DETENTION POND DETAILS					TYPICAL PIPE OUTLET DETAILS	
CATCHMENT AREA (ha)	PEAK FLOWS (m ³ /s) 10 YEAR ARI	SPILLWAY LENGTH (m)	POND STORAGE VOLUME (m ³)		PEAK FLOWS (m ³ /s) 2 YEAR ARI	PIPE OUTLET DIA. (mm)
			SLOPE <10%	SLOPE >10%		
1	0.12	1.50	50	100	0.06	225
2	0.23	2.00	100	200	0.11	300
5	0.58	4.00	250	500	0.28	375
>5	REQUIRES SPECIFIC DESIGN					

NOTES:

1. SEE ALSO FRANKLIN DISTRICT COUNCIL STANDARD DRAWING SW18.
2. DESIGN BASED ON FRANKLIN SUSTAINABILITY PROJECT SOIL AND DRAINAGE MANAGEMENT GUIDE.
3. CATCHMENT AREA NOT TO EXCEED 10ha PER POND.
4. LENGTH OF SPILLWAY IS DESIGNED FOR A 1 IN 10 YEAR STORM WHICH ALLOWS FOR A 200mm DEPTH OF FLOW ACROSS THE SPILLWAY, APPLICABLE TO RURAL INLAND AREAS OF FRANKLIN DISTRICT.



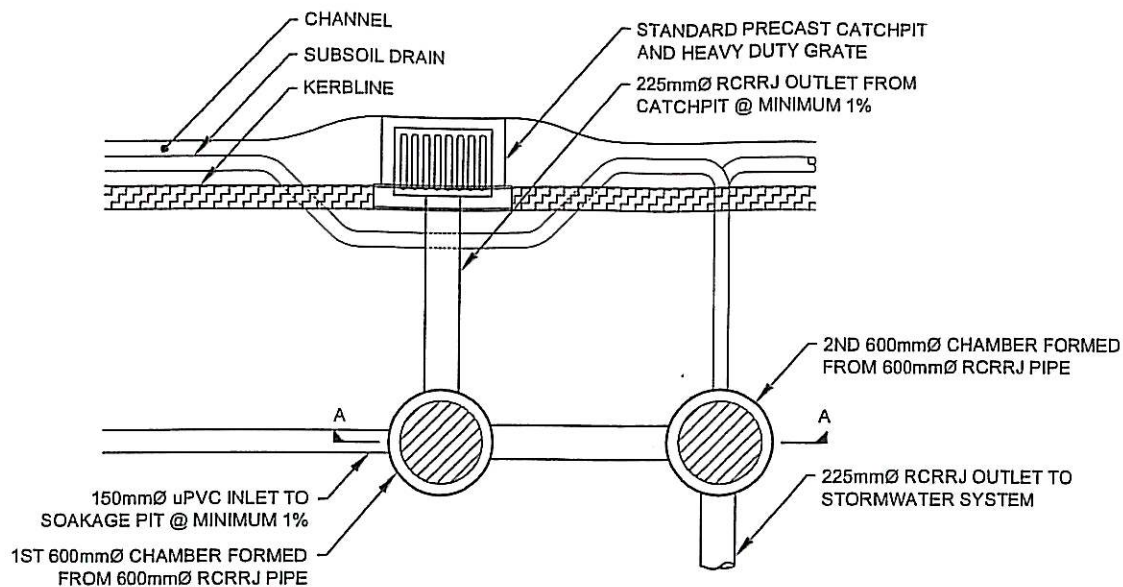
Franklin
DISTRICT COUNCIL

DATE: SEPTEMBER 2010

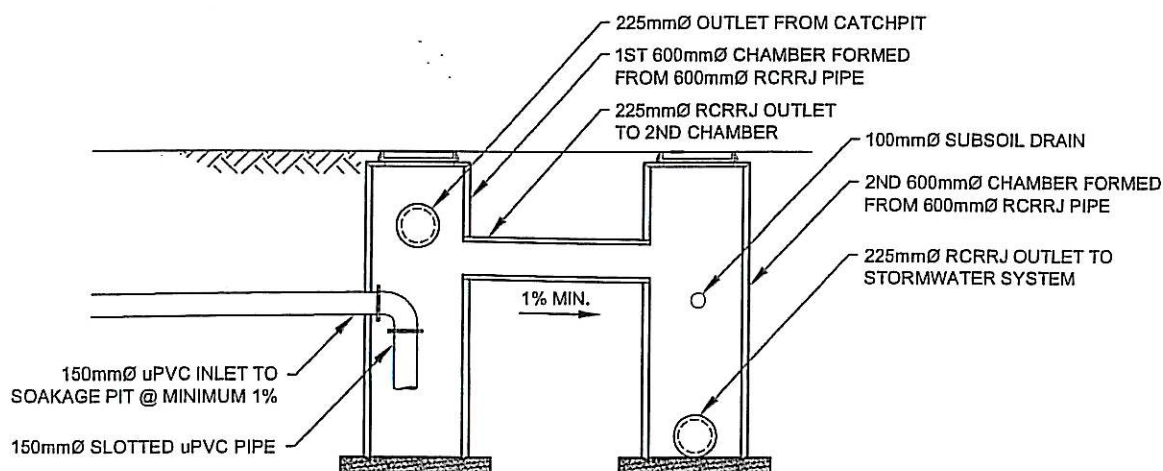
No: SW17

STANDARD DETAIL

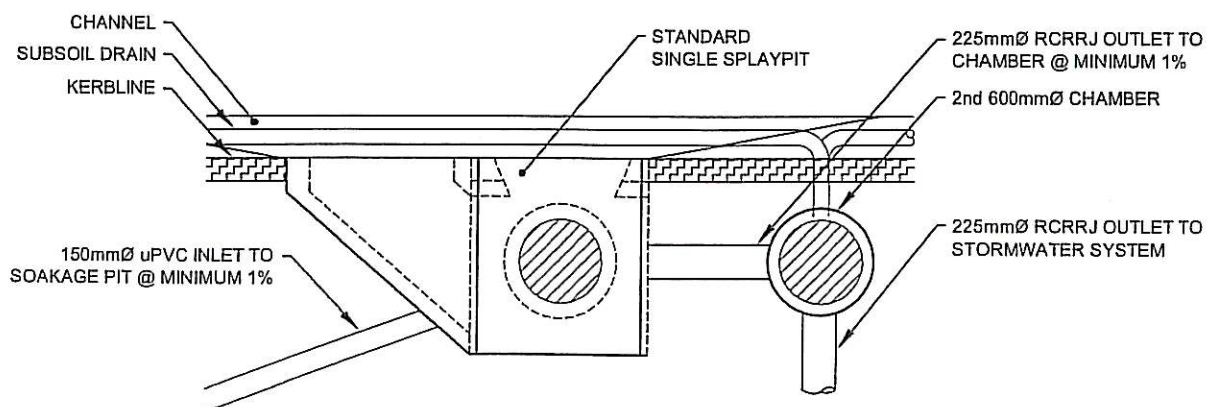
PRIVATE RURAL SEDIMENT DETENTION POND LAYOUT PLAN



PLAN: STANDARD CATCHPIT INLET



SECTION A-A



PLAN: STANDARD SPLAYPIT INLET



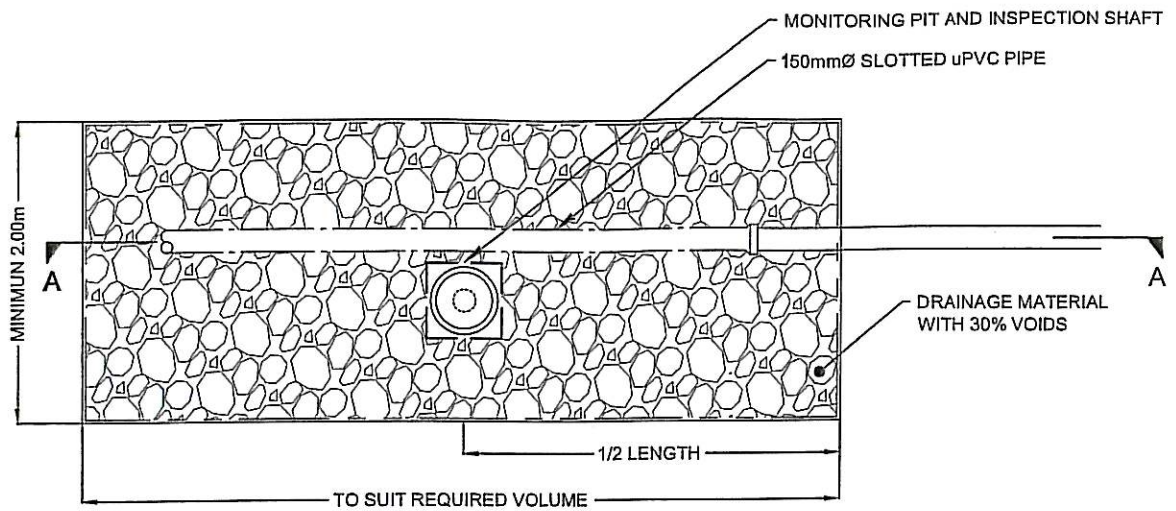
Franklin
DISTRICT COUNCIL

DATE: SEPTEMBER 2010

No: SW19

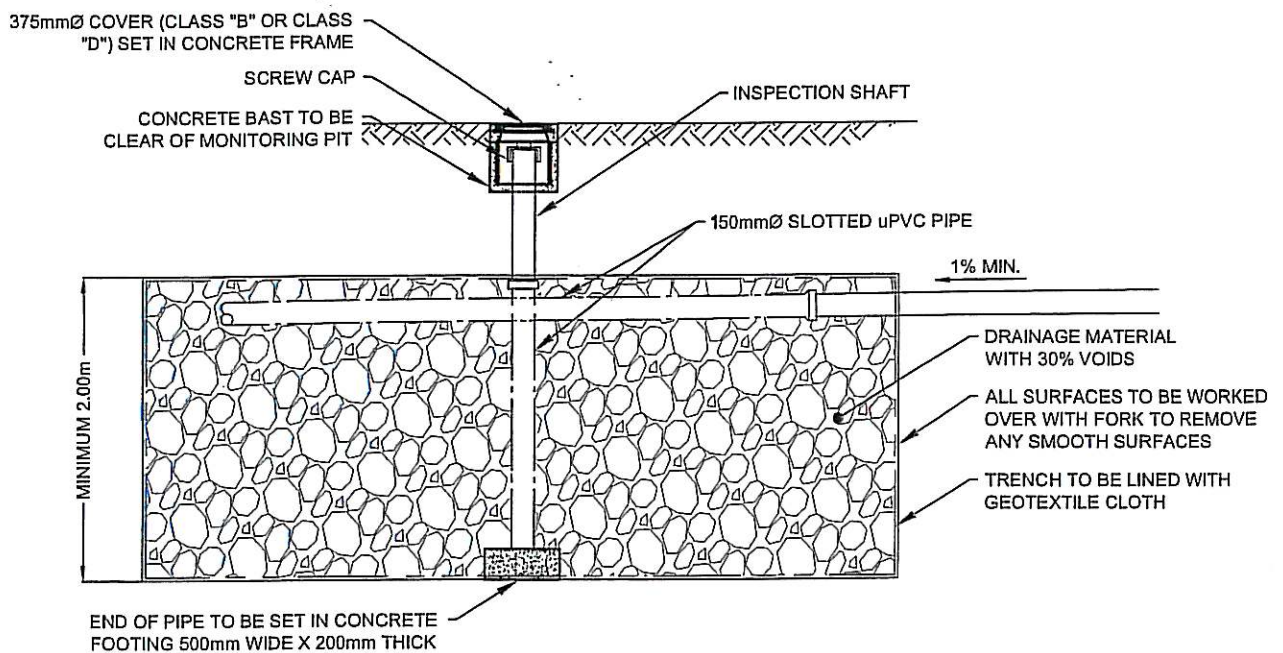
STANDARD DETAIL

SOAKAGE SYSTEM INLET DETAILS



PLAN VIEW

SCALE 1:25



SECTION A-A

SCALE 1:25

NOTES:

1. STORAGE VOLUME IS APPROXIMATELY 0.3m³ PER 1m³ OF SOAKAGE PIT WITH DRAINAGE MATERIAL WITH 30% VOIDS
2. PERCOLATION TESTING AS PER ARC TP10, SECTION 8.5.2, IS REQUIRED BEFORE SIZING SOAKAGE SYSTEM



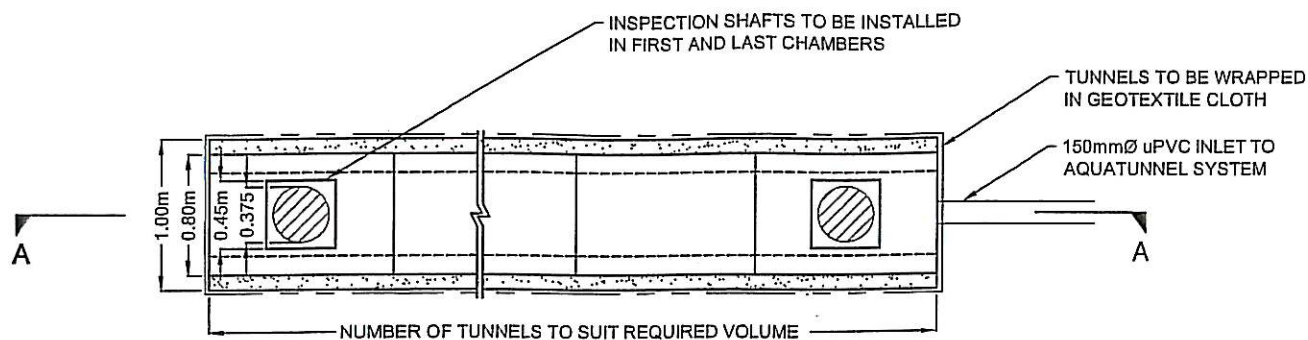
Franklin
DISTRICT COUNCIL

DATE: SEPTEMBER 2010

No: SW20

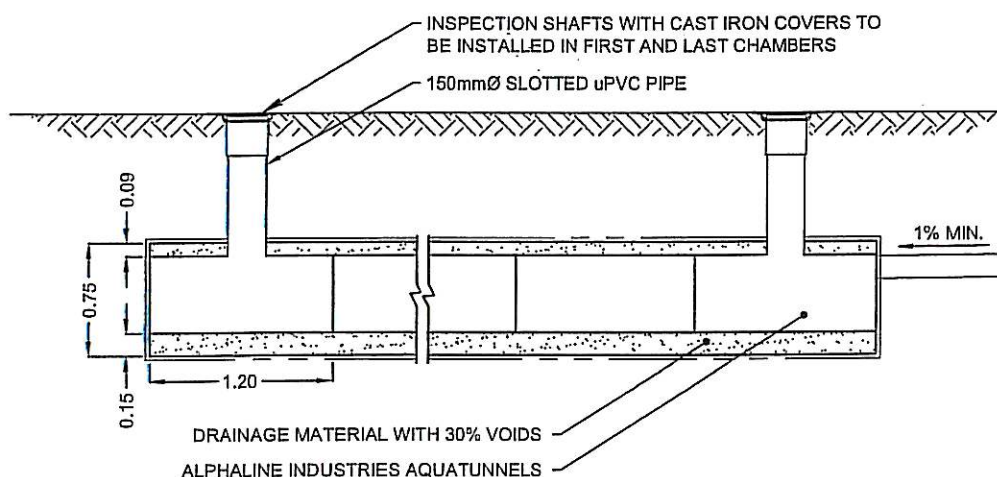
STANDARD DETAIL

STANDARD SOAKAGE SYSTEM DETAILS



PLAN VIEW

SCALE 1:25



SECTION A-A

SCALE 1:25

NOTES:

1. STORAGE VOLUME IS APPROXIMATELY 0.3m³ PER AQUATUNNEL
2. PERCOLATION TESTING AS PER ARC TP10, SECTION 8.5.2, IS REQUIRED BEFORE SIZING SOAKAGE SYSTEM



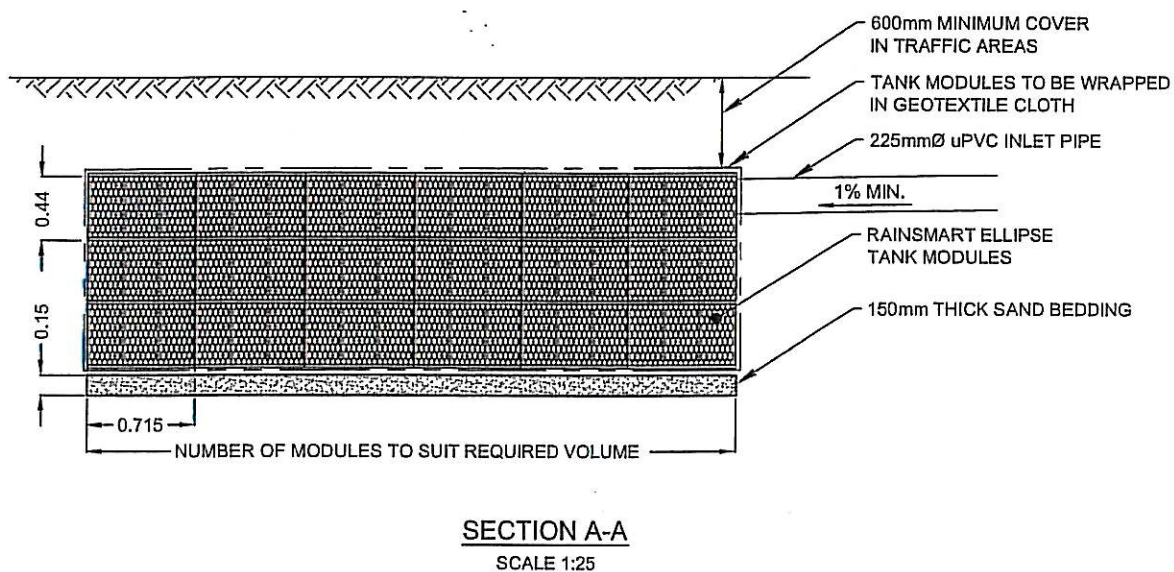
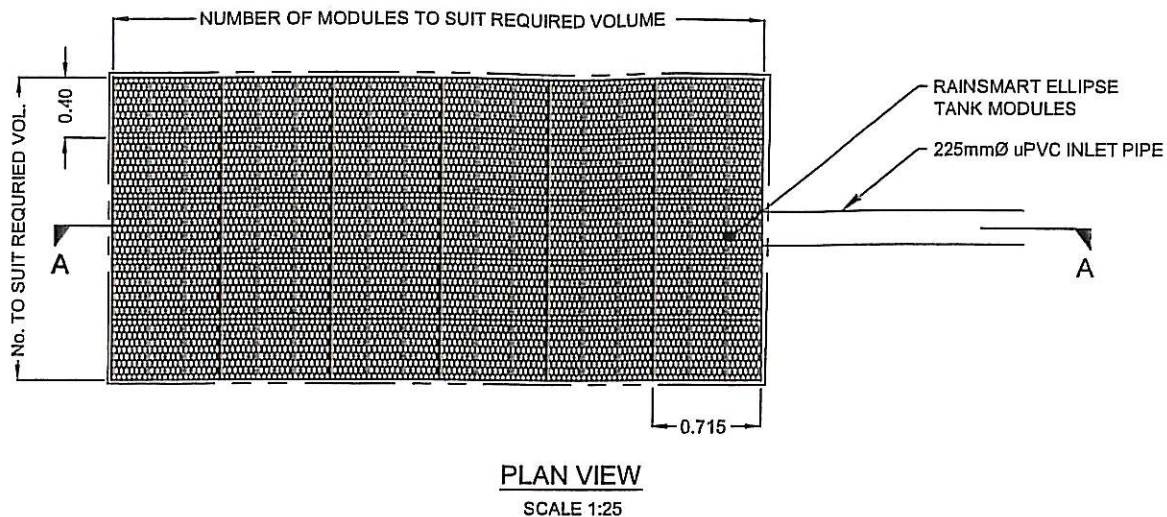
Franklin
DISTRICT COUNCIL

DATE: SEPTEMBER 2010

No: SW21

STANDARD DETAIL

**AQUATUNNEL SOAKAGE
SYSTEM DETAILS**



NOTES:

1. STORAGE VOLUME IS APPROXIMATELY 0.12m³ PER RAINSMART ELLIPSE TANK MODULE
2. PERCOLATION TESTING AS PER ARC TP10, SECTION 8.5.2, IS REQUIRED BEFORE SIZING SOAKAGE SYSTEM



Franklin
DISTRICT COUNCIL

DATE: SEPTEMBER 2010

No: SW22

STANDARD DETAIL

RAINSMART TANKS SOAKAGE SYSTEM DETAILS