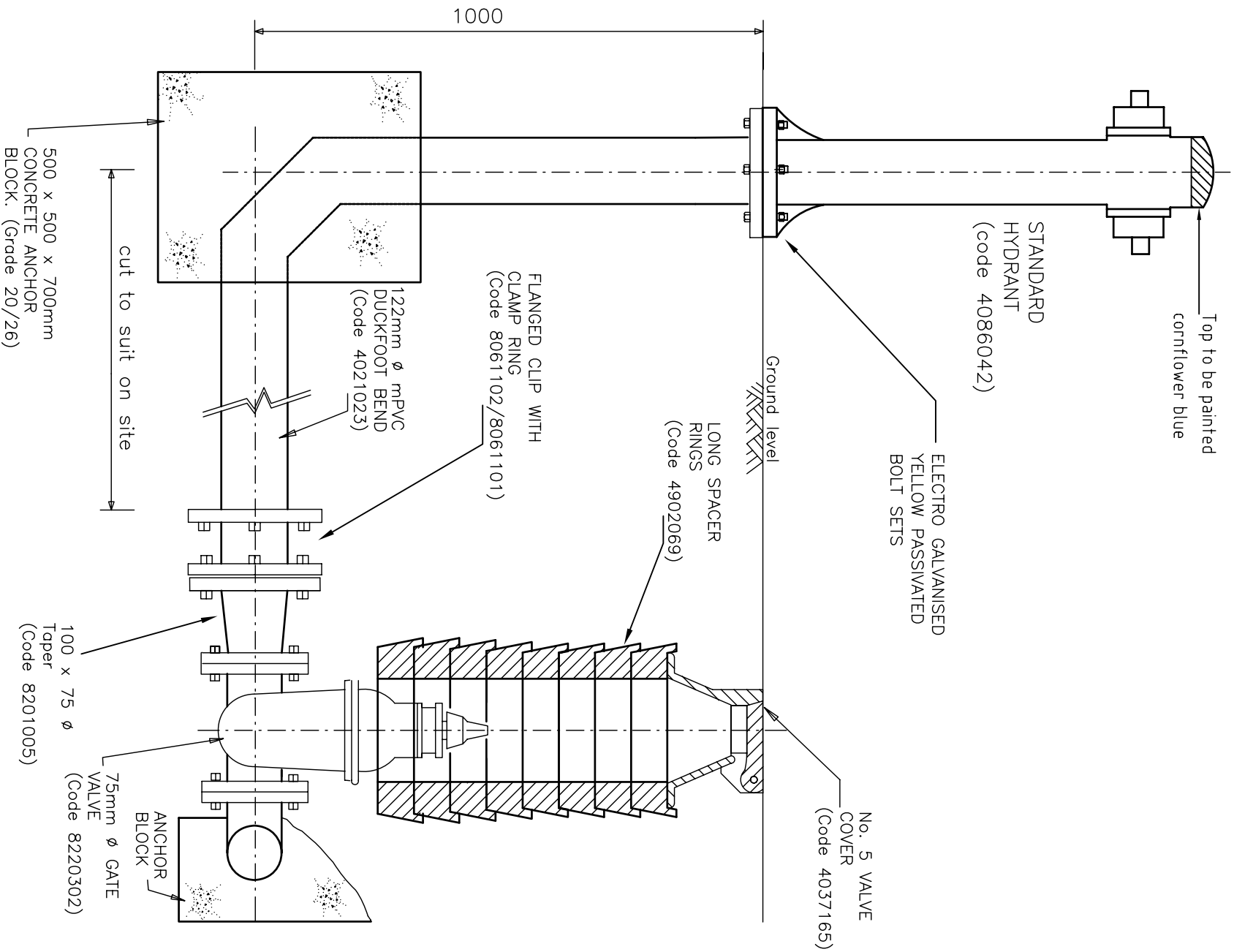




ETHEKWINI WATER AND SANITATION

DESIGN BRANCH

Drawn by: K.M.H

Checked by: ACM

Date: JAN 2009

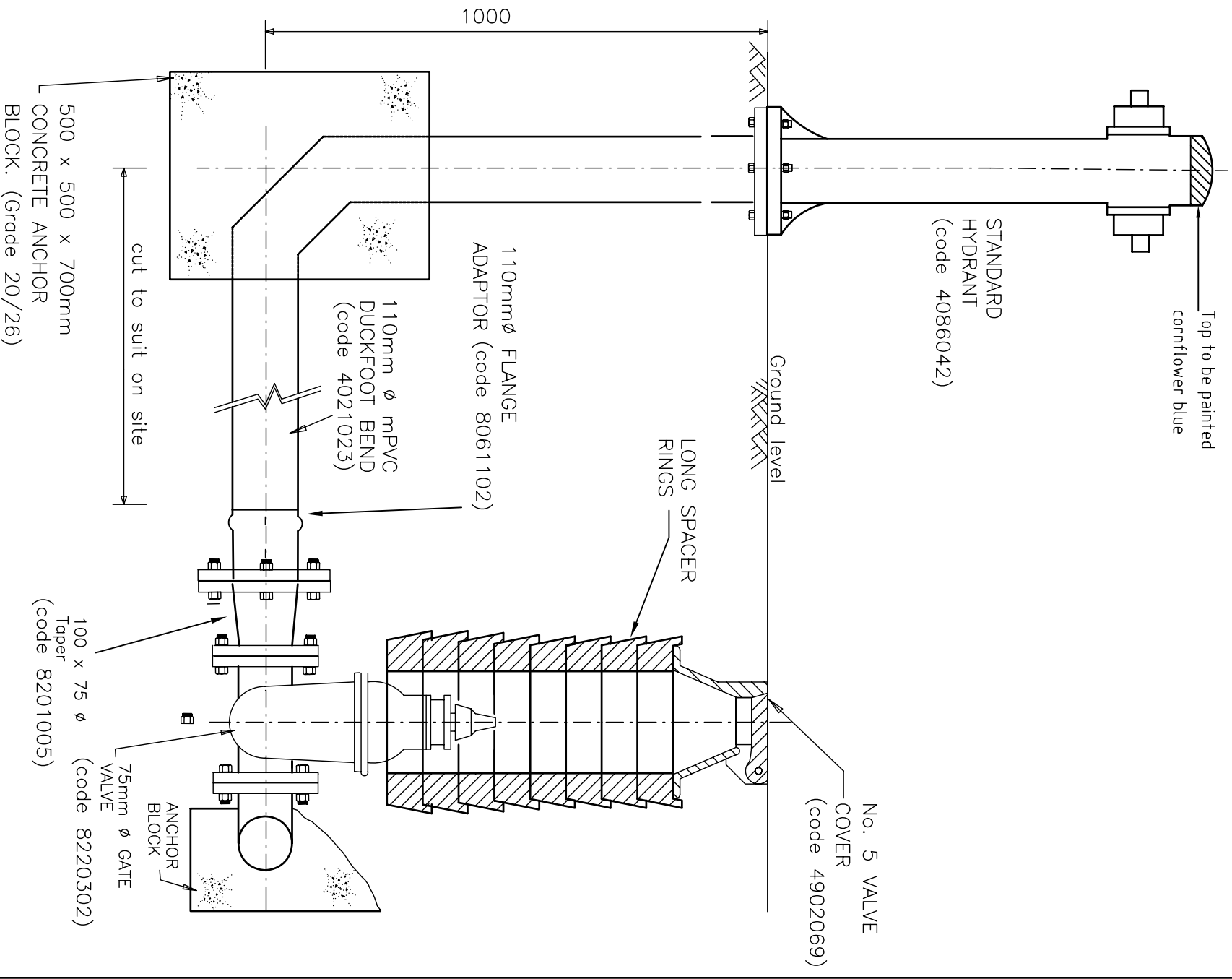
Manager: Design

STANDARD HYDRANT WITH
"mPVC" DUCKFOOT BEND
WITH FLANGE OFF 75 ϕ TEE

Executive Director

Plan No.: 23 A

Rev: 1



ETHEKWINI WATER AND SANITATION

DESIGN BRANCH

Drawn by: K.M.H

Checked by:

Date: JAN 2009

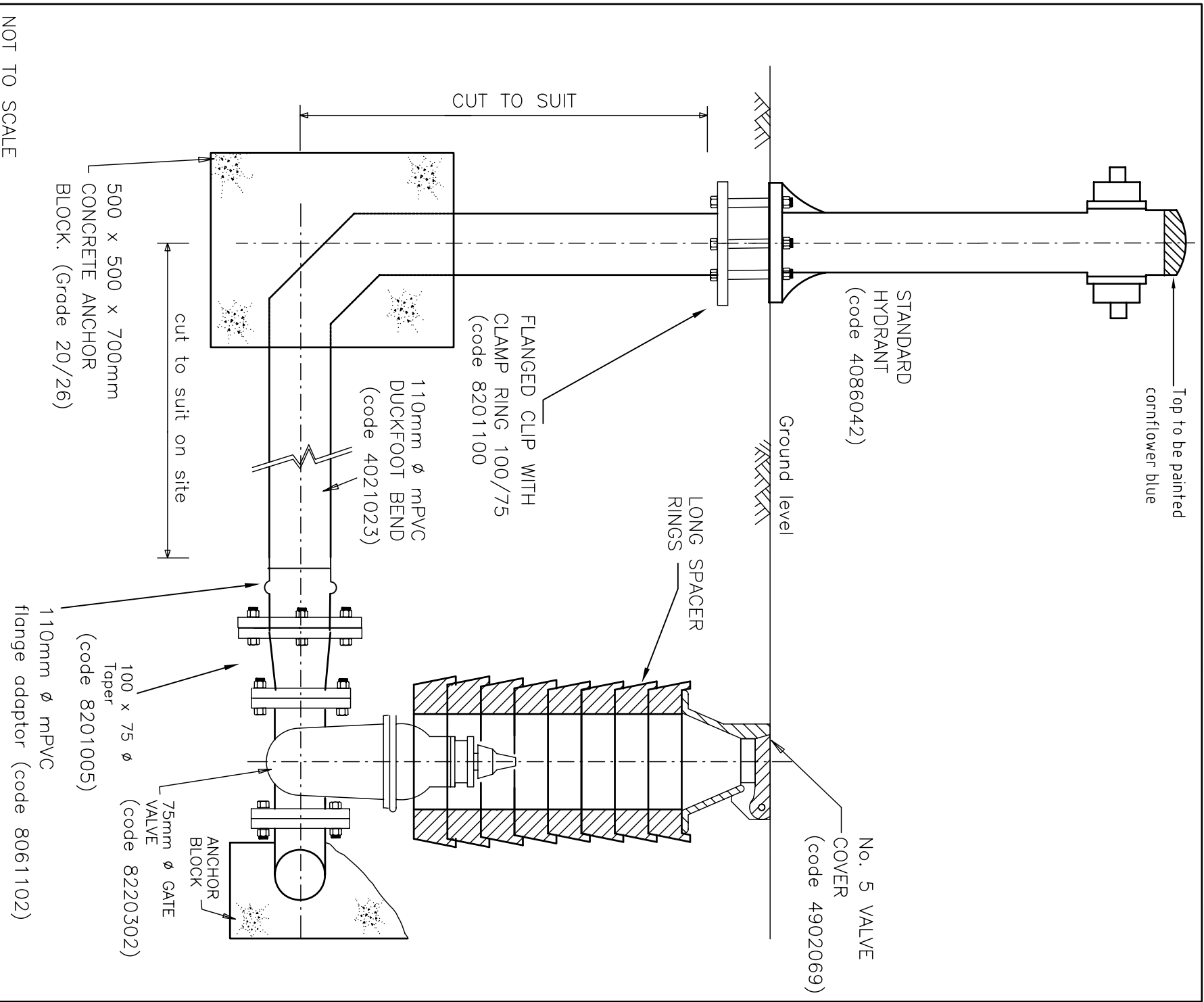
Manager: Design

STANDARD HYDRANT WITH
"mPVC" DUCKFOOT BEND
(F.O.E)WITH FLANGE OFF
75 Ø TEE

Executive Director

Plan No.:

23 B



ETHEKWINI WATER AND SANITATION

DESIGN BRANCH

Drawn by: K.M.H

Checked by:

Date: JAN 2009

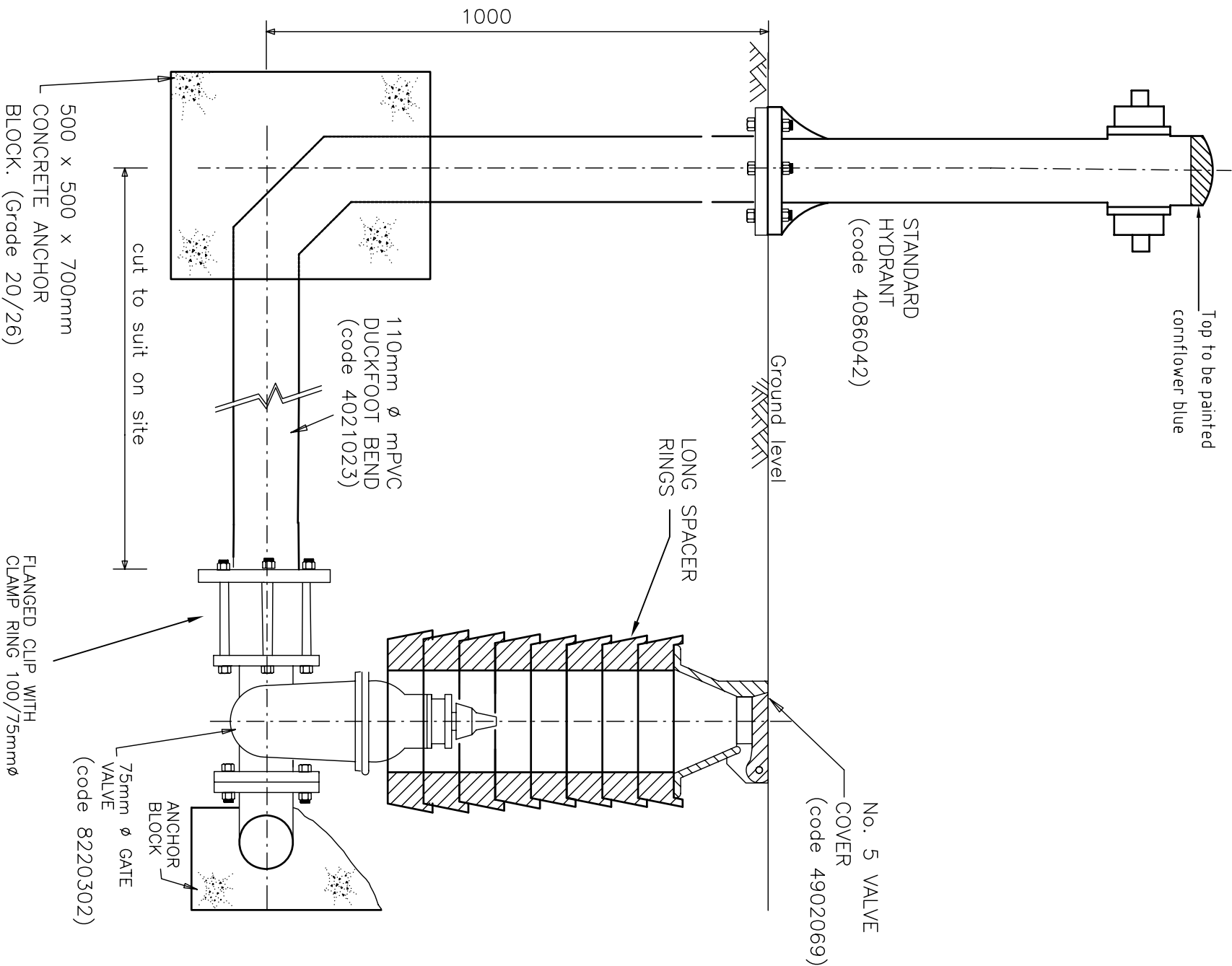
Manager: Design

STANDARD HYDRANT WITH
"mPVC" DUCKFOOT BEND
(PLAIN)OFF 75 ϕ TEE

Executive Director

Plan No.:

23 C

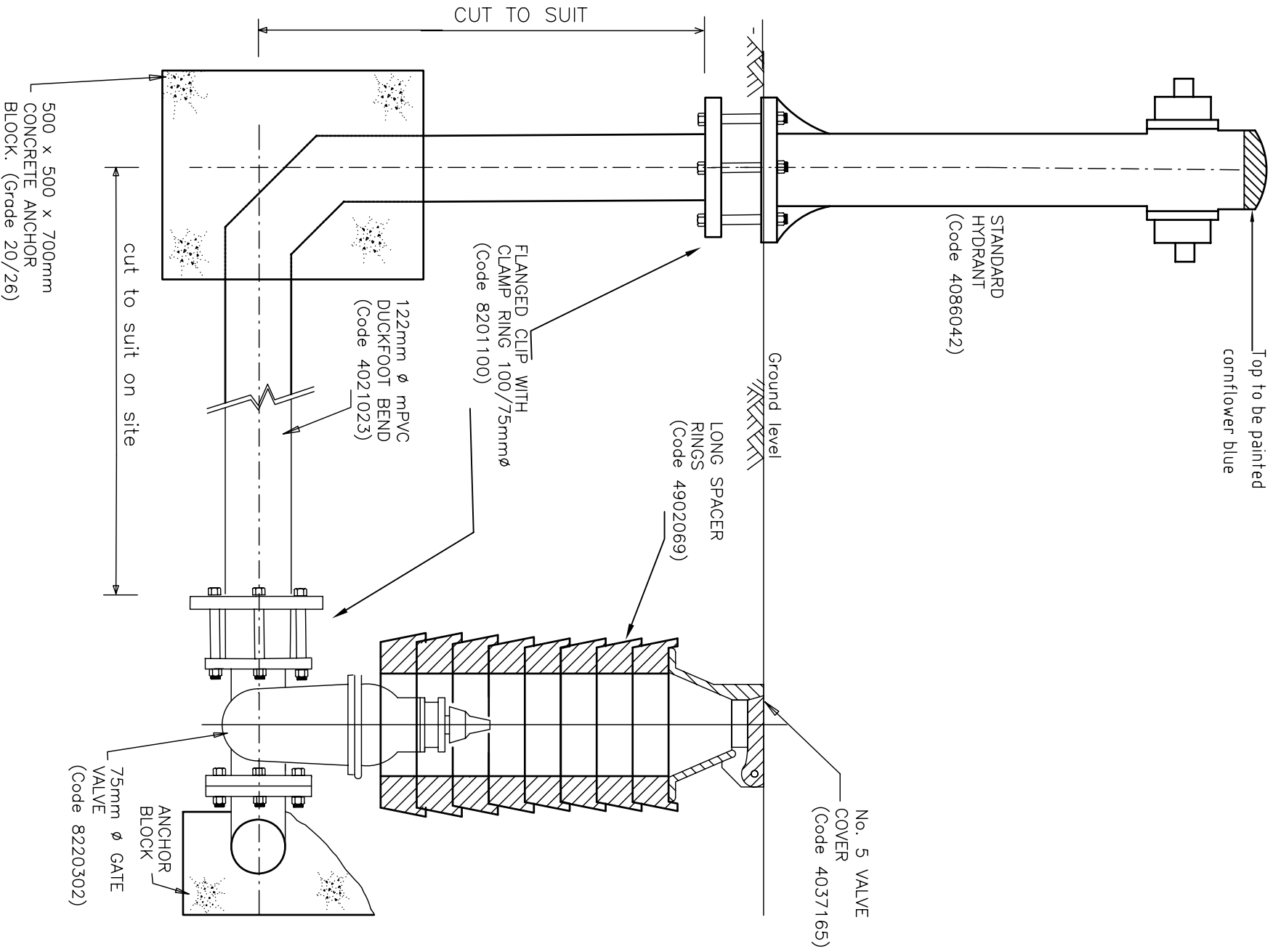


NOT TO SCALE

ETHEKWINI WATER AND SANITATION

DESIGN BRANCH

Drawn by: K.M.H	STANDARD HYDRANT WITH "mpvc" DUCKFOOT BEND (F.O.E)WITH FLANGE OFF 75 Ø TEE			
Checked by:			Executive Director	
Date: JAN 2009			23 D	
Manager: Design				
.....		Plan No.:		



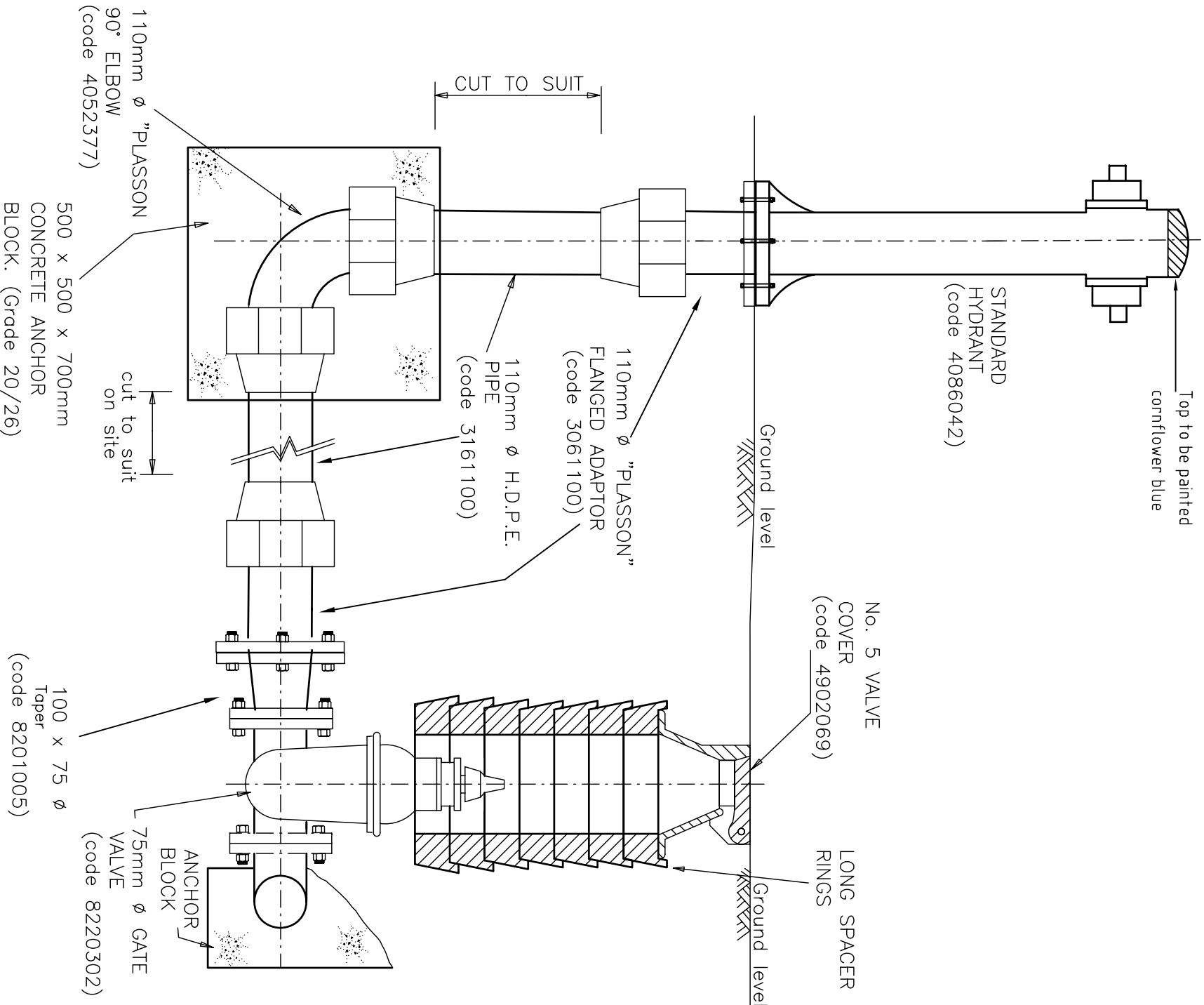
NOT TO SCALE

ETHEKWINI WATER AND SANITATION

DESIGN BRANCH

Drawn by: K.M.H	STANDARD HYDRANT WITH "mPVC" DUCKFOOT BEND OFF 75 Ø TEE		
Checked by: ACM			
Date: JAN 2009			
.....			
Manager: Design			

.....	
Executive Director	
Plan No.:	23 E
Rev:	



ETHEKWINI WATER AND SANITATION

DESIGN BRANCH

Drawn by:

Checked by:

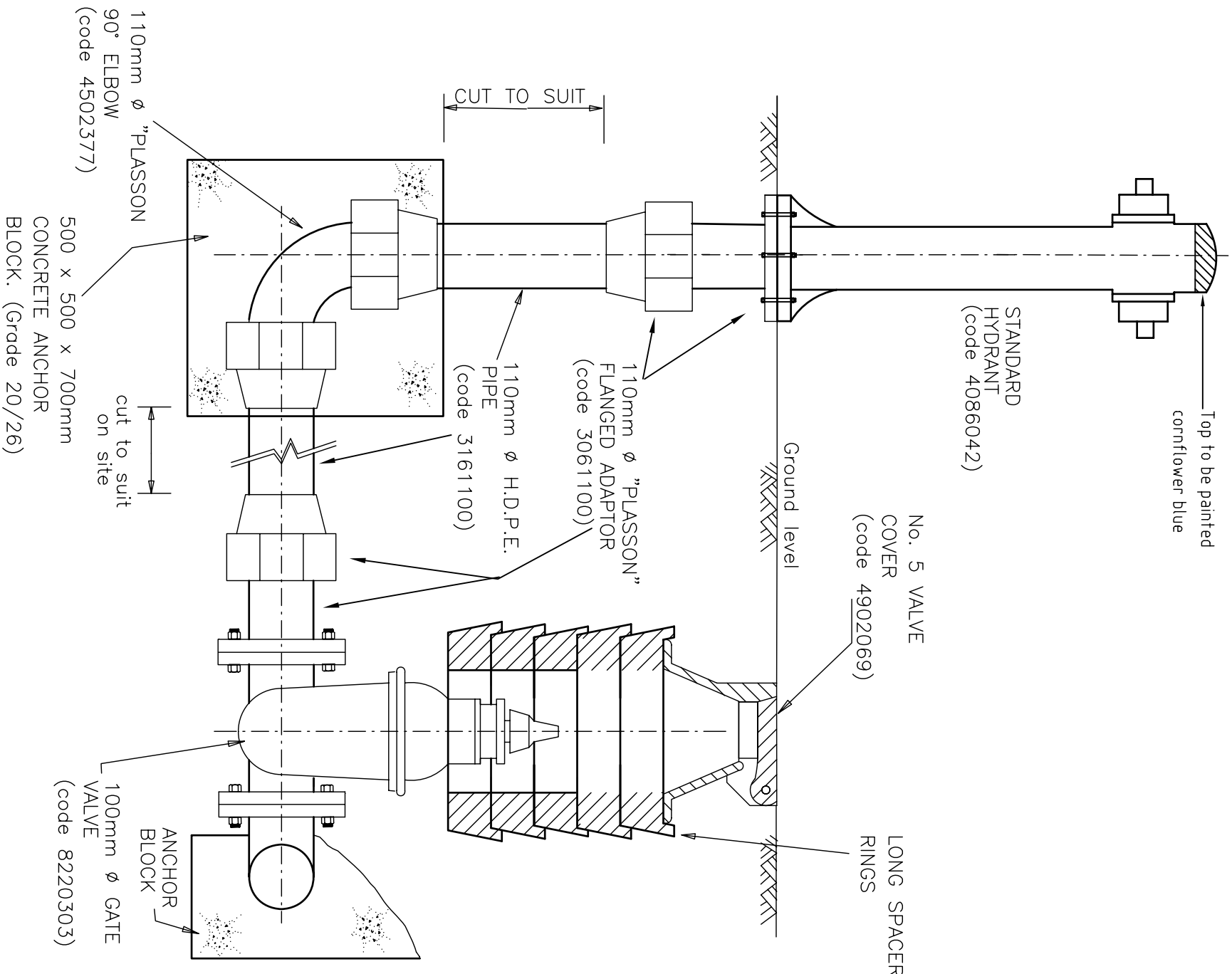
Date: JAN 2009

Manager: Design

HYDRANT WITH 110mm ϕ
H.D.P.E. PIPE (CLASS 12)
— "PLASSON" BENDS
OFF 75 ϕ TEE

Executive Director

Plan No.: 25 B



ETHEKWINI WATER AND SANITATION

DESIGN BRANCH

Drawn by:

Checked by:

Date: JAN 2009

Manager: Design

HYDRANT WITH 110mm $\varnothing$
H.D.P.E. PIPE(CLASS 12)

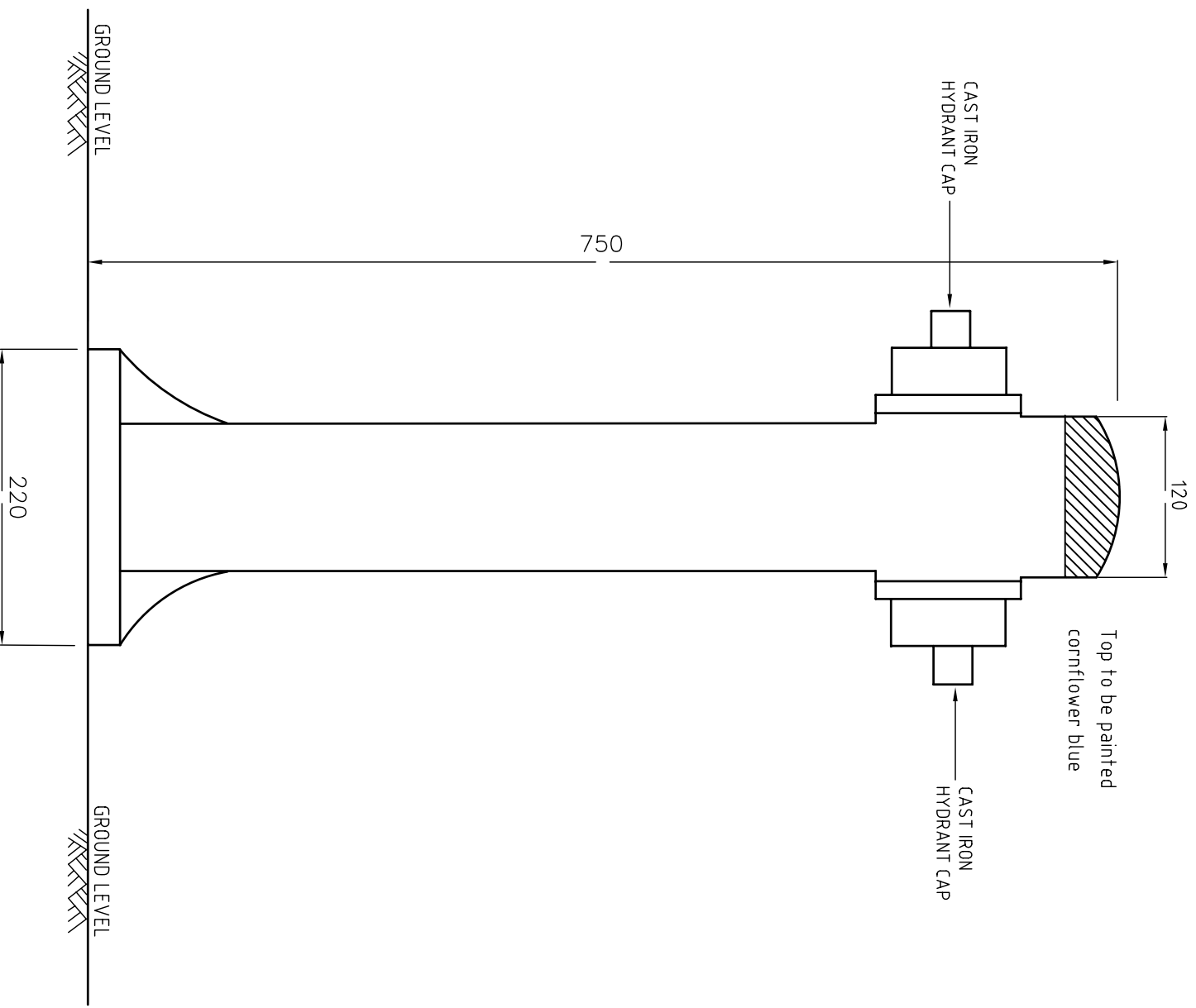
–"PLASSON" BENDS

OFF 100 $\varnothing$ TEE

Executive Director

Plan No.:

26 B



NOT TO SCALE

ETHEKWINI MUNICIPALITY

DESIGN BRANCH

Drawn by : S.M

Checked by : A.C.M.

Date : JAN 2009

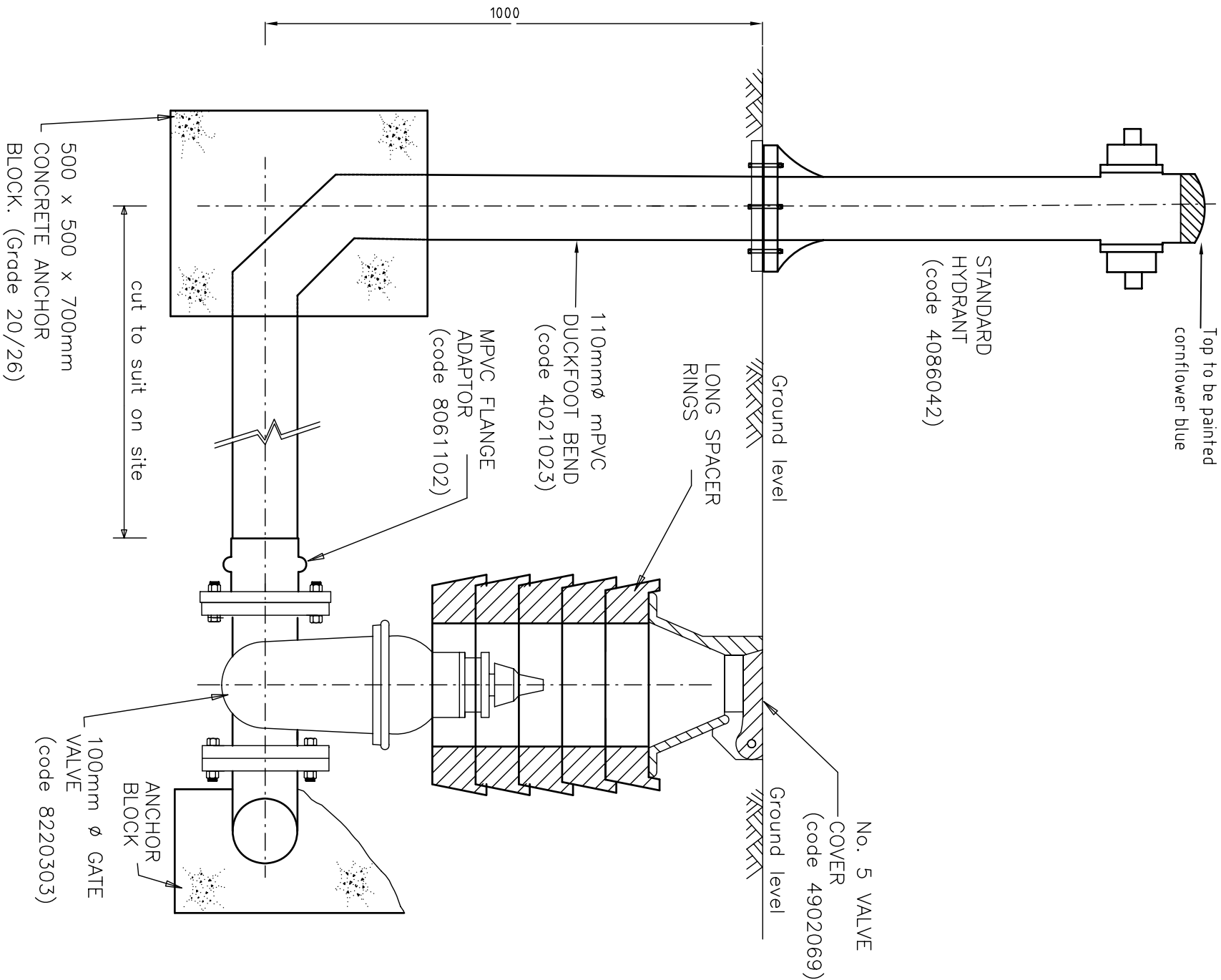
Manager: Design

DETAIL OF PCS MODIFIED
LONDON TYPE FIRE HYDRANT

Head:
Water and Sanitation

Plan No:

43 A



ETHEKWINI WATER AND SANITATION

DESIGN BRANCH

Drawn by: K.M.H

Checked by:

Date: JAN 2009

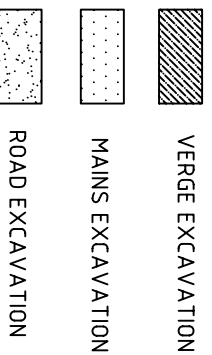
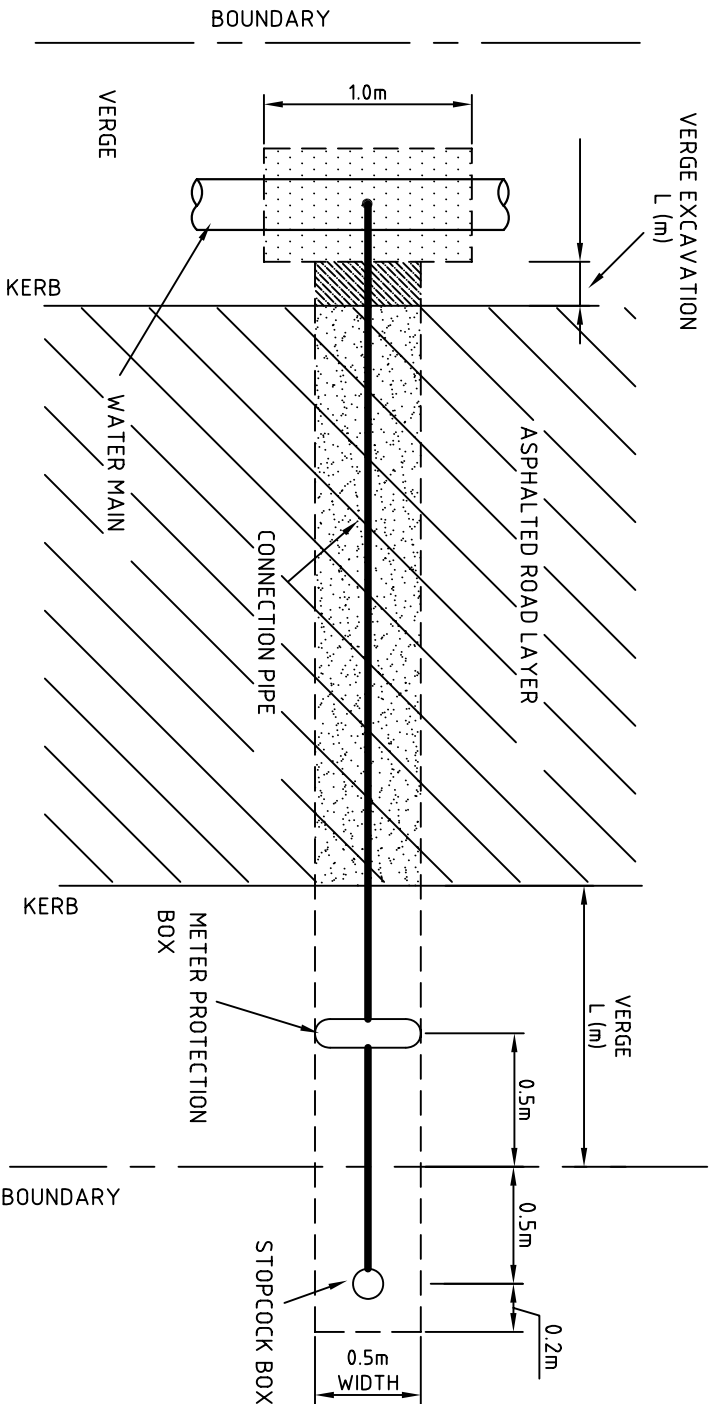
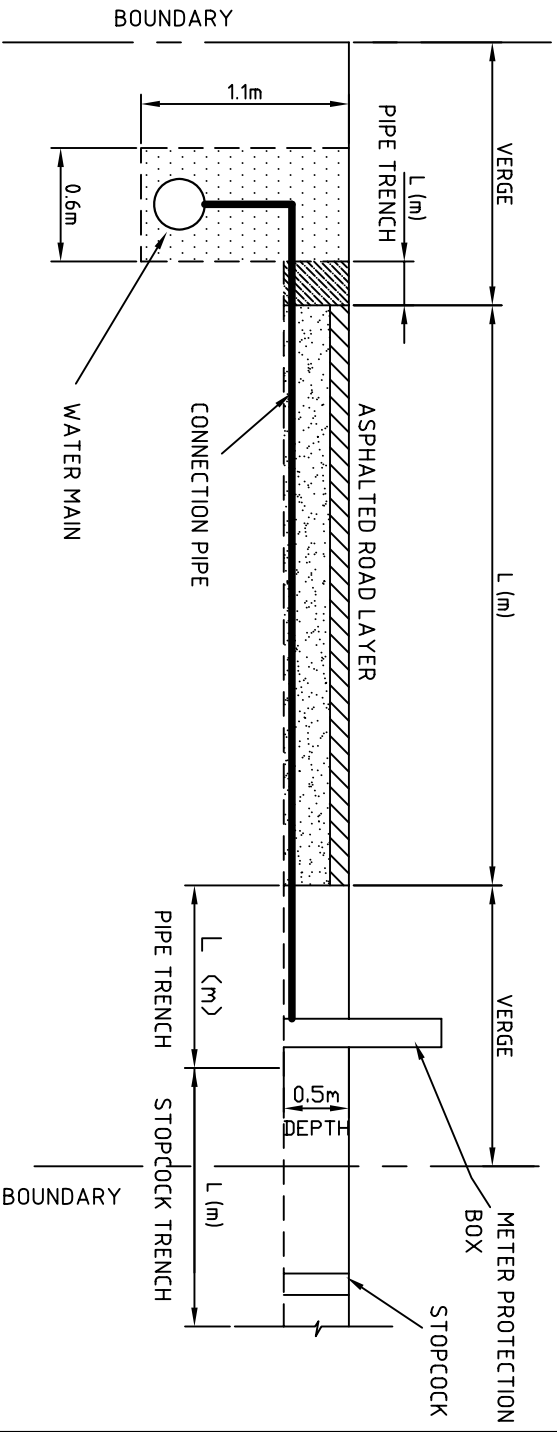
Manager: Design

STANDARD HYDRANT WITH
"MPVC" DUCKFOOT BEND
OFF 100Ø TEE

Executive Director

Plan No.:

51 B



ETHEKWINI MUNICIPALITY

WATER DESIGN BRANCH

Drawn by : K.M.H.

Checked by :

Date : NOV 2006

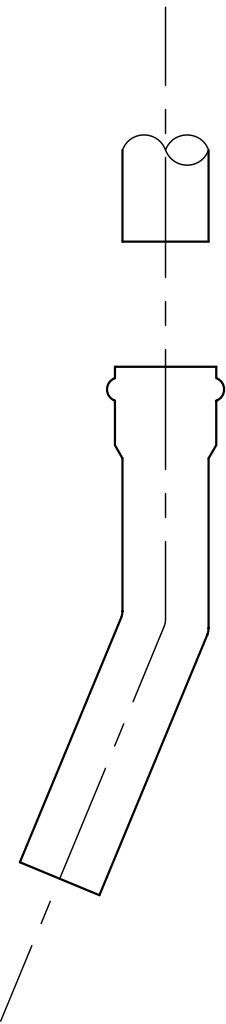
Manager: Water Design

WATERMAIN CONNECTION

DETAIL

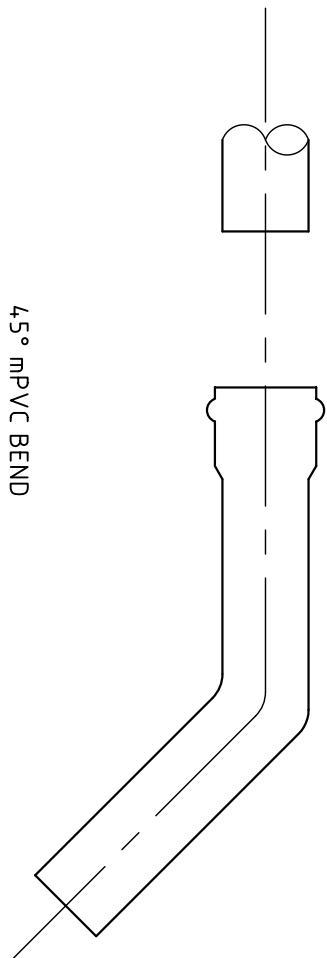
Head: _____
Water and Waste

Plan No: **63**



22.5° mPVC BEND

STOCK CODE	DESCRIPTION
8020753	BEND mPVC 75mm ϕ X 22.5° CLASS 16
8021103	BEND mPVC 110mm ϕ X 22.5° CLASS 16
8021603	BEND mPVC 160mm ϕ X 22.5° CLASS 16
4021201	BEND mPVC 200mm ϕ X 22.5° CLASS 16
ETHEKWINI MUNICIPALITY WATER DESIGN BRANCH	
Drawn by : A.F. KELNER	
Checked by :	
Date : 24/01/06	
22.5° mPVC BEND	
Head: Water and Waste	
Plan No: 67	
Manager: Water Design	

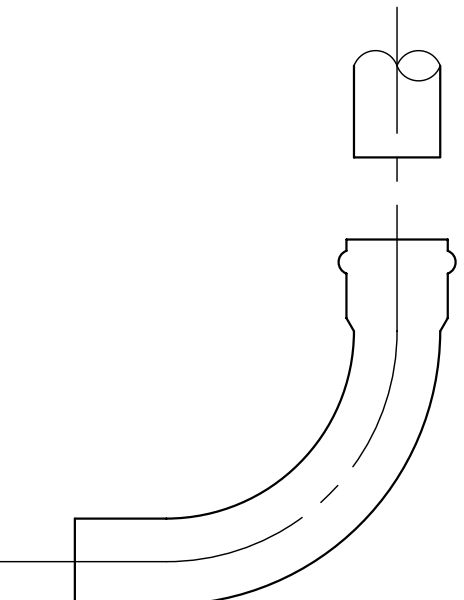


STOCK CODE	DESCRIPTION
------------	-------------

8020752	BEND mPVC 75mm ϕ x 45° CLASS 16
8021102	BEND mPVC 110mm ϕ x 45° CLASS 16
8021602	BEND mPVC 160mm ϕ x 45° CLASS 16
4021210	BEND mPVC 200mm ϕ x 45° CLASS 16

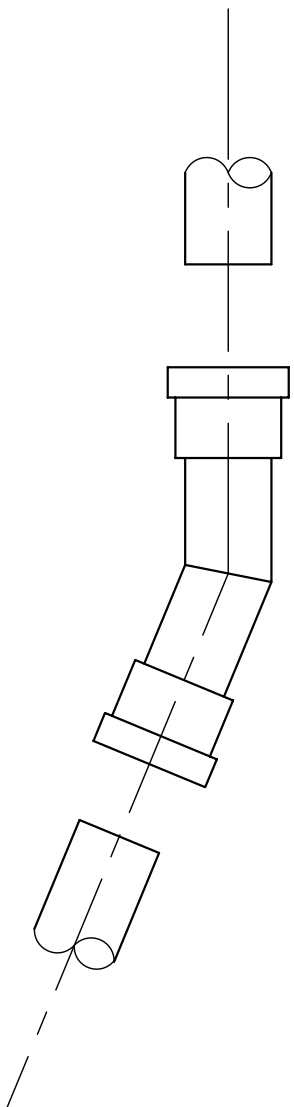
ETHEKWINI MUNICIPALITY WATER DESIGN BRANCH

Drawn by : A.F. KELNER	45° mPVC BEND	
Checked by :		
Date : 24/01/06		
Manager: Water Design		
		Head: Water and Waste
		Plan No: 68



STOCK CODE		DESCRIPTION	
8020751		BEND mPVC 75mm ϕ x 90° CLASS 16	
8021101		BEND mPVC 110mm ϕ x 90° CLASS 16	
8021601		BEND mPVC 160mm ϕ x 90° CLASS 16	
4021229		BEND mPVC 200mm ϕ x 90° CLASS 16	

ETHEKWINI MUNICIPALITY		WATER DESIGN BRANCH	
Drawn by : A.F. KELNER Checked by : Date : 24/01/06		90° mPVC BEND Head: Water and Waste Plan No: 69	
Manager: Water Design			

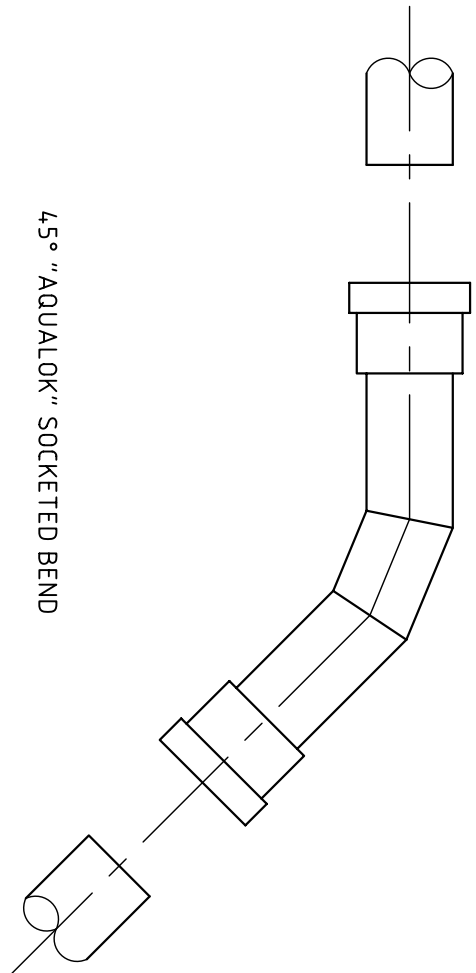


22.5° "AQUALOK" SOCKETED BEND

SPECIAL TO BE "RILSAN" LINED AND
COATED, MINIMUM DRY FILM THICKNESS -
250 MICRONS

STOCK CODE	DESCRIPTION
8022503	BEND "AQUALOK" 250mm ϕ x 22.5° SOCKETED FABRICATED STEEL BEND
8023153	BEND "AQUALOK" 315mm ϕ x 22.5° SOCKETED FABRICATED STEEL BEND

ETHEKWINI MUNICIPALITY		WATER DESIGN BRANCH	
Drawn by : A.F. KELNER			
Checked by :			
Date : 24/01/06			
		Head: _____	
		Water and Waste	
Manager: Water Design		Plan No: _____ 70 _____	

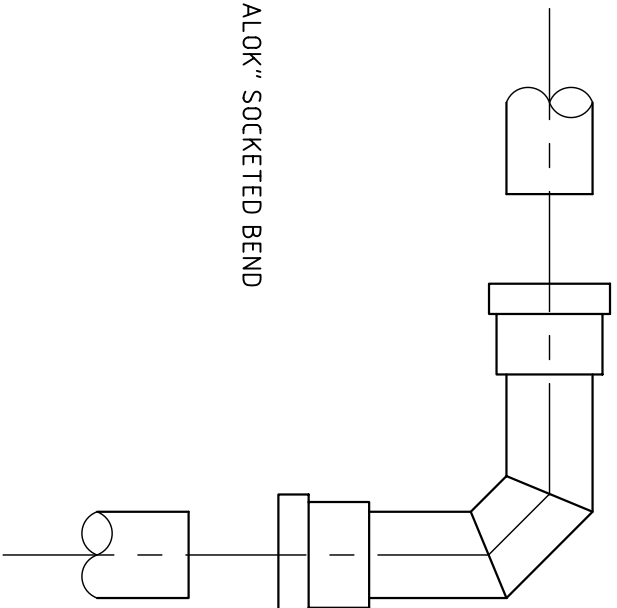


SPECIAL TO BE "RILSAN" LINED AND
COATED, MINIMUM DRY FILM THICKNESS -
250 MICRONS

STOCK CODE	DESCRIPTION
8022502	BEND "AQUALOK" 250mm ϕ x 45° SOCKETED FABRICATED STEEL BEND
8023152	BEND "AQUALOK" 315mm ϕ x 45° SOCKETED FABRICATED STEEL BEND

ETHEKWINI MUNICIPALITY		WATER DESIGN BRANCH	
Drawn by : A.F. KELNER			
Checked by :			
Date : 24/01/06			
_____		Head: _____	
Manager: Water Design		Water and Waste	
		Plan No: _____	

45° "AQUALOK"
SOCKETED BEND



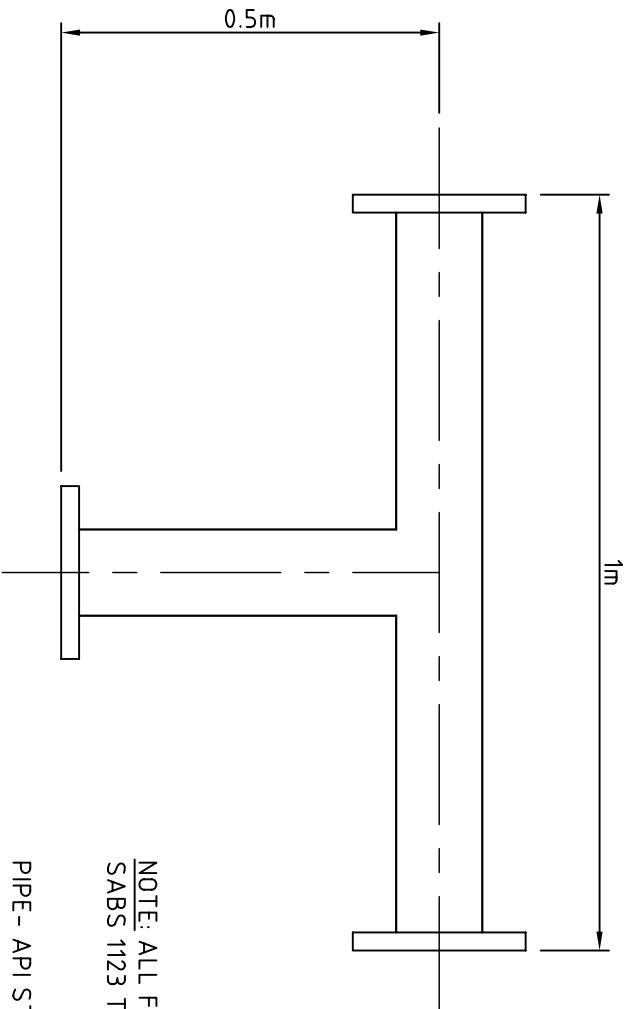
90° "AQUALOK" SOCKETED BEND

SPECIAL TO BE "RILSAN" LINED AND
COATED, MINIMUM DRY FILM THICKNESS -
250 MICRONS

STOCK CODE	DESCRIPTION
8022501	BEND "AQUALOK" 250mm ϕ X 90° SOCKETED FABRICATED STEEL BEND
8023151	BEND "AQUALOK" 315mm ϕ X 90° SOCKETED FABRICATED STEEL BEND

ETHEKWINI MUNICIPALITY		WATER DESIGN BRANCH	
Drawn by : A.F. KELNER			
Checked by :			
Date : 24/01/06			
____		Head: _____	
Manager: Water Design		Water and Waste	
		Plan No: _____	

90° "AQUALOK"
SOCKETED BEND

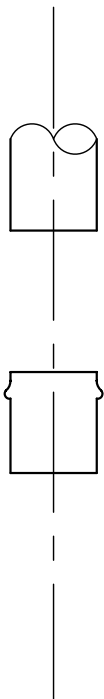


NOTE: ALL FLANGES TO
SABS 1123 TABLE 16.

PIPE - API STEEL
SCHEDULE 40

EQUAL TEE
SPECIAL TO BE "RILSAN" LINED AND
COATED, MINIMUM DRY FILM THICKNESS -
250 MICRONS

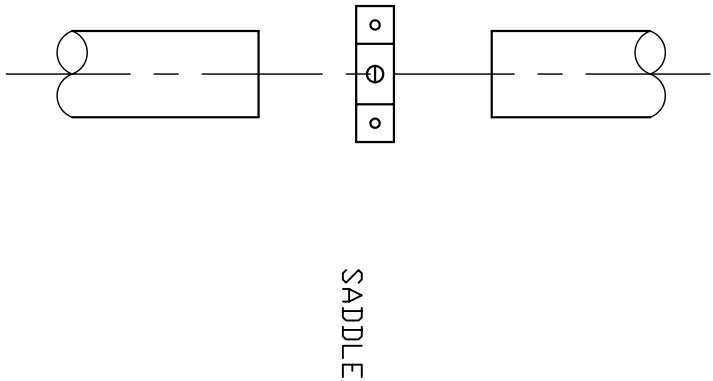
STOCK CODE	DESCRIPTION
8200751	EQUAL TEE FLANGED 75mm ϕ
8201001	EQUAL TEE FLANGED 100mm ϕ
8201501	EQUAL TEE FLANGED 150mm ϕ
8202001	EQUAL TEE FLANGED 200mm ϕ
8202501	EQUAL TEE FLANGED 250mm ϕ
8203001	EQUAL TEE FLANGED 300mm ϕ
ETHEKWINI MUNICIPALITY WATER DESIGN BRANCH	
Drawn by : A.F. KELNER	
Checked by :	
Date : 18/05/06	
Manager: Water Design	
EQUAL TEE	
Head: Water and Waste	
Plan No: 73 Rev A	



END CAP

FITTING TO BE F.B.E COATED, MINIMUM
DRY FILM THICKNESS - 250 MICRONS

STOCK CODE	DESCRIPTION
8030751	END CAP 75 mm ϕ S.G. IRON
8031101	END CAP 110 mm ϕ S.G. IRON
8031601	END CAP 160 mm ϕ S.G. IRON
8032001	END CAP 200 mm ϕ S.G. IRON
8032501	END CAP 250 mm ϕ S.G. IRON
8033151	END CAP 315 mm ϕ S.G. IRON
ETHEKWINI MUNICIPALITY WATER DESIGN BRANCH	
Drawn by : A.F. KELNER	
Checked by :	
Date : 24/01/06	
END CAP	
Manager: Water Design	
Head: Water and Waste	
Plan No: 74	

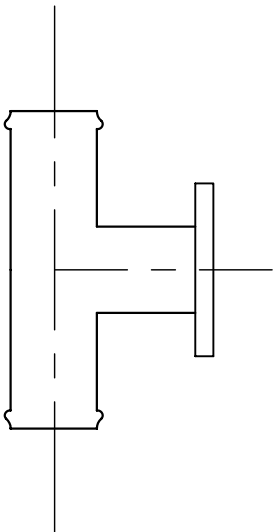


STOCK CODE	DESCRIPTION
------------	-------------

8195752	SADDLE 75mm $\varnothing$ x 25mm $\varnothing$
8195753	SADDLE 75mm $\varnothing$ x 50mm $\varnothing$
8195102	SADDLE 110mm $\varnothing$ x 25mm $\varnothing$
8195103	SADDLE 110mm $\varnothing$ x 40mm $\varnothing$
8195602	SADDLE 160mm $\varnothing$ x 25mm $\varnothing$
8195603	SADDLE 160mm $\varnothing$ x 50mm $\varnothing$
8195202	SADDLE 200mm $\varnothing$ x 25mm $\varnothing$
8195203	SADDLE 200mm $\varnothing$ x 50mm $\varnothing$
8195252	SADDLE 250mm $\varnothing$ x 25mm $\varnothing$
8195253	SADDLE 250mm $\varnothing$ x 50mm $\varnothing$
8195315	SADDLE 315mm $\varnothing$ x 25mm $\varnothing$
8195316	SADDLE 315mm $\varnothing$ x 50mm $\varnothing$
	SADDLE 400mm $\varnothing$ x 25mm $\varnothing$
	SADDLE 400mm $\varnothing$ x 50mm $\varnothing$

ETHEKWINI MUNICIPALITY	WATER DESIGN BRANCH
------------------------	---------------------

Drawn by : A.F. KELNER	SADDLE	Head: Water and Waste
Checked by :		
Date : 24/01/06		
Manager: Water Design		
		Plan No: 75 REV A

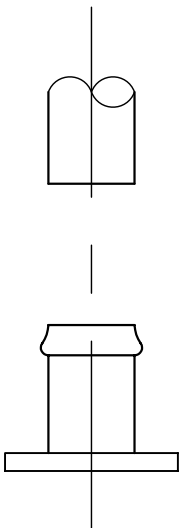


NOTE: ALL FLANGES TO
SABS 1123 TABLE 16.

HYDRANT TEE

FITTING TO BE F.B.E COATED, MINIMUM
DRY FILM THICKNESS - 250 MICRONS

STOCK CODE	DESCRIPTION
8080751	HYDRANT S.G. IRON SOCKETED TEE 75mm x 80mm ϕ
8081101	HYDRANT S.G. IRON SOCKETED TEE 110mm x 80mm ϕ
8081601	HYDRANT S.G. IRON SOCKETED TEE 160mm x 80mm ϕ
8082001	HYDRANT S.G. IRON SOCKETED TEE 200mm x 80mm ϕ
8082501	HYDRANT S.G. IRON SOCKETED TEE 250mm x 80mm ϕ
NOTE: ALL FLANGES TO SABS 1123 TABLE 16.	
HYDRANT "AQUALOK" SOCKETED TEE WITH FLANGED STUB SPECIAL TO BE "RILSAN" LINED AND COATED, MINIMUM DRY FILM THICKNESS - 250 MICRONS	
STOCK CODE	DESCRIPTION
8083151	HYDRANT "AQUALOK" SOCKETED STEEL TEE 315mm x 80mm ϕ
ETHEKWINI MUNICIPALITY WATER DESIGN BRANCH	
Drawn by : A.F. KELNER	
Checked by :	
Date : 24/01/06	
_____ Manager: Water Design	
HYDRANT TEE	
Head: Water and Waste	
Plan No: 76	

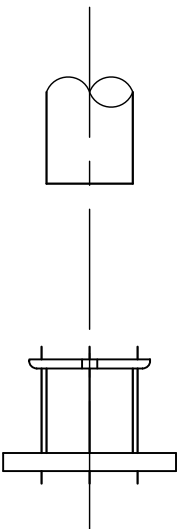


FLANGE ADAPTER

NOTE: ALL FLANGES TO
SABS 1123 TABLE 16.

FITTING TO BE F.B.E COATED, MINIMUM
DRY FILM THICKNESS - 250 MICRONS

STOCK CODE	DESCRIPTION
8060752	FLANGE ADAPTER 75mm ϕ S.G. IRON
8061102	FLANGE ADAPTER 110mm ϕ S.G. IRON
8061602	FLANGE ADAPTER 160mm ϕ S.G. IRON
8062002	FLANGE ADAPTER 200mm ϕ S.G. IRON
8062502	FLANGE ADAPTER 250mm ϕ S.G. IRON
8063152	FLANGE ADAPTER 315mm ϕ S.G. IRON
ETHEKWINI MUNICIPALITY WATER DESIGN BRANCH	
Drawn by : A.F. KELNER	
Checked by :	
Date : 24/01/06	
FLANGE ADAPTER	
Head: _____	
Water and Waste	
Manager: Water Design _____	
Plan No: 77	

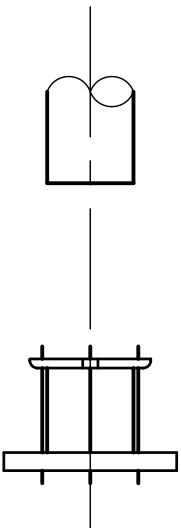


UNIVERSAL FLANGE
ADAPTER

NOTE: ALL FLANGES TO
SABS 1123 TABLE 16.

FITTING TO BE F.B.E COATED, MINIMUM
DRY FILM THICKNESS - 250 MICRONS

STOCK CODE	DESCRIPTION
8060751	UNIVERSAL FLANGE ADAPTER 75mm ϕ (59mm TO 78mm) (mPVC)
8061101	UNIVERSAL FLANGE ADAPTER 110mm ϕ (109mm TO 128mm) (A.C, mPVC, STEEL)
8061601	UNIVERSAL FLANGE ADAPTER 160mm ϕ (159mm TO 182mm) (A.C., mPVC, STEEL)
8062001	UNIVERSAL FLANGE ADAPTER 200mm ϕ (190mm TO 205mm) (mPVC)
8062501	FLANGE ADAPTER 250mm ϕ (250mm TO 267mm)(225mm ϕ AC) (mPVC) TABLE 16.
8063152	FLANGE ADAPTER 315mm ϕ (315mm TO 328mm) (mPVC/ STEEL).
ETHEKWINI MUNICIPALITY WATER DESIGN BRANCH	
Drawn by : A.F. KELNER	
Checked by :	
Date : 18/05/06	
____ _	
Manager: Water Design	
UNIVERSAL FLANGE ADAPTER	
Head: _____ Water and Waste	
Plan No: 78 Rev A	



UNIVERSAL FLANGE
ADAPTER

NOTE: ALL FLANGES TO
SABS 1123 TABLE 16.

FITTING TO BE F.B.E COATED, MINIMUM
DRY FILM THICKNESS - 250 MICRONS

STOCK CODE	DESCRIPTION
8060751	UNIVERSAL FLANGE ADAPTER 75mm ϕ (59mm TO 78mm) (mPVC)
8061101	UNIVERSAL FLANGE ADAPTER 110mm ϕ (109mm TO 128mm) (A.C, mPVC, STEEL)
8061601	UNIVERSAL FLANGE ADAPTER 160mm ϕ (159mm TO 182mm) (A.C, mPVC, STEEL)
8062001	UNIVERSAL FLANGE ADAPTER 200mm ϕ (190mm TO 205mm) (mPVC)
8062501	FLANGE ADAPTER 250mm ϕ (250mm TO 267mm)(225mm ϕ AC) (mPVC) TABLE 16.
8063001	FLANGE ADAPTER 315mm ϕ (315mm TO 328mm) (mPVC/ STEEL).

ETHEKWINI MUNICIPALITY

WATER DESIGN BRANCH

Drawn by : A.F. KELNER

Checked by :

Date : 18/05/06

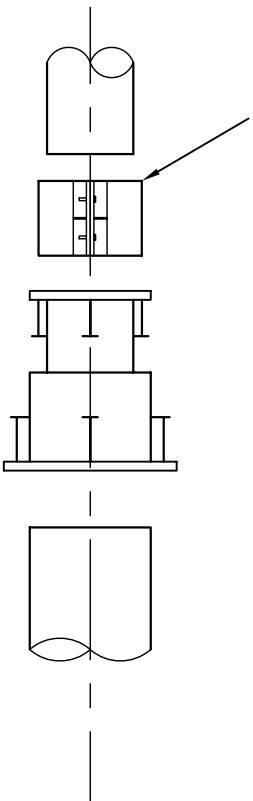
Manager: Water Design

UNIVERSAL FLANGE
ADAPTER

Head: _____
Water and Waste

Plan No: **78** Rev **B**

DUCTILE IRON/STEEL SADDLE

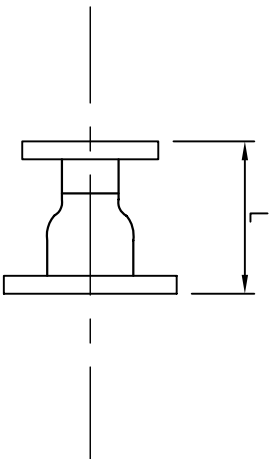


"AQUALOK" STEPFIT COUPLING

NOTE: STEEL SADDLE MUST BE
INSTALLED AGAINST THE SMALLER
END OF THE STEPFIT COUPLING IN
ORDER TO AVOID PIPE CREEP

FITTING TO BE F.B.E COATED, MINIMUM
DRY FILM THICKNESS - 250 MICRONS

STOCK CODE	DESCRIPTION
8192001	STEPFIT COUPLING 200mm x 232mm ϕ (MPVC x A.C.)
8192501	STEPFIT COUPLING 250mm x 286mm ϕ (MPVC x A.C.)
8193151	STEPFIT COUPLING 315mm x 345mm ϕ (MPVC x A.C.)
8193150	SADDLE 315mm x 100mm WIDE
8204000	STEPFIT COUPLING 375mm x 400mm ϕ 426mm O.D x (396mm-406mm O.D) A.C x STEEL/MPVC
8194001	SADDLE 400mm x 100mm WIDE
8205000	STEPFIT COUPLING 450mm x 400mm ϕ 507mm O.D x (396mm-406mm O.D) A.C x STEEL/MPVC
8194001	SADDLE 400mm x 100mm WIDE
8205001	STEPFIT COUPLING 525mm x 500mm ϕ 587mm O.D x (500mm-510mm O.D) A.C x STEEL
8195081	SADDLE 508mm x 100mm WIDE
8206000	STEPFIT COUPLING 600mm x 600mm ϕ 667mm O.D x 610mm O.D A.C x STEEL
8196101	SADDLE 610mm x 100mm WIDE
ETHEKWINI MUNICIPALITY WATER DESIGN BRANCH	
Drawn by : A.F. KELNER Checked by : Date : 13/09/06 Manager: Water Design "AQUALOK" STEPFIT COUPLING Head: _____ Water and Waste Plan No: 79 Rev A	



NOTE: ALL FLANGES TO
SABS 1123 TABLE 16.

PIPE: API STEEL SCH 40

TAPER: API TO ANSI
B16.9

EXTENSION ON SMALLER
DIAMETER

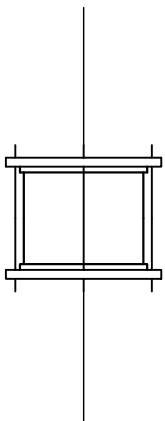
TAPER FLANGED

SPECIAL TO BE "RILSAN" LINED AND
COATED, MINIMUM DRY FILM THICKNESS -
250 MICRONS

STOCK CODE	DESCRIPTION	
	TAPER FLANGED 80mm x 50mm ϕ	(L = 180mm)
8201005	TAPER FLANGED 100mm x 80mm ϕ	(L = 200mm)
8203007	TAPER FLANGED 150mm x 80mm ϕ	(L = 250mm)
8201510	TAPER FLANGED 150mm x 100mm ϕ	(L = 250mm)
8202002	TAPER FLANGED 200mm x 150mm ϕ	(L = 275mm)
8202003	TAPER FLANGED 200mm x 100mm ϕ	(L = 275mm)
8202004	TAPER FLANGED 200mm x 80mm ϕ	(L = 275mm)
8202505	TAPER FLANGED 250mm x 80mm ϕ	(L = 300mm)
8202504	TAPER FLANGED 250mm x 100mm ϕ	(L = 300mm)
8202503	TAPER FLANGED 250mm x 150mm ϕ	(L = 300mm)
8202502	TAPER FLANGED 250mm x 200mm ϕ	(L = 300mm)
8203006	TAPER FLANGED 300mm x 80mm ϕ	(L = 450mm)x
8203005	TAPER FLANGED 300mm x 100mm ϕ	(L = 350mm)
8203004	TAPER FLANGED 300mm x 150mm ϕ	(L = 350mm)
8203003	TAPER FLANGED 300mm x 200mm ϕ	(L = 350mm)
8203002	TAPER FLANGED 300mm x 250mm ϕ	(L = 350mm)

x: 2 CONCENTRIC
TAPERS
eg: (300x 150)+(150x 80)

ETHEKWINI MUNICIPALITY		WATER DESIGN BRANCH	
Drown by : A.F. KELNER			
Checked by :			
Date : 18/05/06			
_____ Manager: Water Design		Head: Water and Waste	
		Plan No: 80 Rev A	

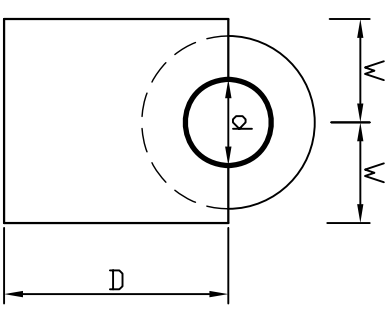
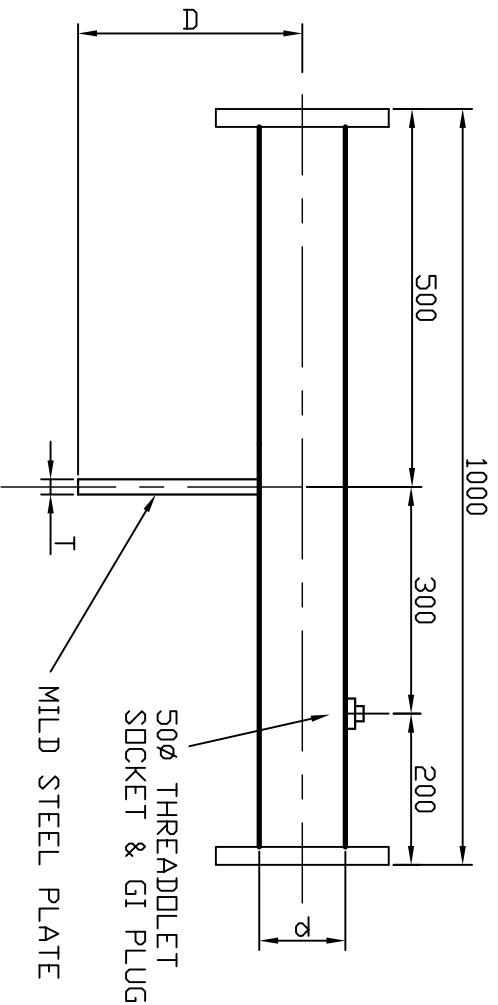


UNIVERSAL COUPLING

FITTING TO BE F.B.E COATED, MINIMUM
DRY FILM THICKNESS - 250 MICRONS

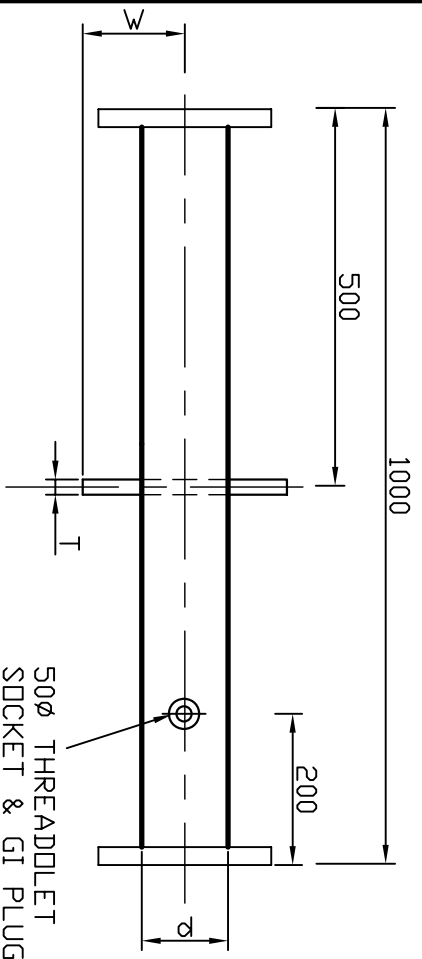
STOCK CODE	DESCRIPTION
8210751	UNIVERSAL COUPLING 75mmø (59-78mm) mPVC.
8211001	UNIVERSAL COUPLING 110mmø (109-128mm) A.C., mPVC, STEEL.
8211601	UNIVERSAL COUPLING 160mmø (159-182mm) A.C., mPVC, STEEL.
8212001	UNIVERSAL COUPLING 200mmø (190-205mm) mPVC.
8212501	UNIVERSAL COUPLING 250mmø (250-267mm) mPVC/225mmø AC
8213151	UNIVERSAL COUPLING 315mmø (315-328mm) mPVC/STEEL.
8204002	UNIVERSAL COUPLING 400mmø (396-406mm) JOINT 400mm ø mPVC
8205002	UNIVERSAL COUPLING 500ø (500-510mm O.D) 450mm x 450mm/500mm 507mm O.D. x 507/508 O.D A.C. x A.C./STEEL.

ETHEKWINI MUNICIPALITY		WATER DESIGN BRANCH	
Drawn by : A.F. KELNER			
Checked by :			
Date : 13/09/06			
_____		Head: _____	
Manager: Water Design		Water and Waste	
		Plan No: 81	Rev A



ELEVATION

SECTION



PLAN

NOTE:

1. PIPE ASTM A106 SEAMLESS PIPE SCHEDULE 40
2. FLANGES TO SABS 1123 TABLE 16
3. SPECIAL TO BE "RILSAN" LINED & COATED TO A MINIMU DRY FILM THICKNESS OF 250 MICRONS
4. M.S. PLATE TO BE ANCHORED IN CONCRETE.

DIA d (mm)	WIDTH W (mm)	DEPTH D (mm)	THICKNESS T (mm)
75	95	200	10
100	100	300	10
150	135	300	10
200	160	400	10
250	185	500	12
300	210	500	12

ETHEKWINI MUNICIPALITY

WATER DESIGN BRANCH

Drawn by : K.M.H.

Checked by :

Date : JUNE 07

Manager: Water Design

SPOOL PIECE
FOR TESTING

Head:
Water and Waste

91

Plan No: _____