



**DETAIL Z**  
SCALE 1:10

**SECTION B-B**  
SCALE 1:20

**SECTIONAL PLAN VIEW (RL 143,250)**  
SCALE 1:75

**SECTION A-A**  
SCALE 1:20

**ADDITIONAL NOTES:**

**NOTE TO CONTRACTOR:**  
THE CONTRACTOR SHALL VERIFY THE EXACT AS-BUILT DIMENSIONS OF THE CIVIL STRUCTURE ON THE SITE, PRIOR TO MANUFACTURING, TO ENSURE PROPER FITTING OF THE EQUIPMENT ON INSTALLATION.

**MATERIAL:**  
-ALL MILD STEEL ITEMS TO BE IN ACCORDANCE WITH SANS 50025 / EN 10025 GRADE S355JR OR SANS 1431 GRADE 350WA.  
-FLANGE MATERIAL AS PER DRAWING DETAIL.  
-ALL MANUFACTURED PIPE BARREL MATERIALS TO BE IN ACCORDANCE WITH EN 10058-2.

**FLANGES:**  
-ALL FLANGES ACCORDING TO EN 1092-1 - PN25 (U.O.S.)  
-FLANGE WELDING TO BS 806 TYPE 6.  
-ALL FLANGES SHALL BE RAISED FACE WITH GRAMOPHONE FINISH.  
-ALL GASKETS SHALL BE RAISED FACE COMPRESSED FIBRE GASKETS.

**PIPES AND SPECIALS:**  
-WORKING PRESSURE: 2500 kPa  
-HYDRAULIC TEST PRESSURE: 3750 kPa  
-ALL PIPES AND SPECIALS SHALL BE HYDRAULIC PRESSURE TESTED TO 3750 kPa.  
-RADIOGRAPHIC TESTING SHALL BE PERFORMED WHERE HYDRAULIC PRESSURE TESTING IS NOT POSSIBLE, AT THE DISCRETION OF THE ENGINEER.

**GENERAL MANUFACTURING NOTES:**  
-PIPE MANUFACTURING AND TOLERANCES SHALL BE IN ACCORDANCE WITH SANS 719 AND SANS 62-1.  
-FABRICATION TO BE IN ACCORDANCE WITH PARTICULAR SPECIFICATION DSP-1-1.  
-ROUND ALL EDGES TO 2 mm (U.O.S.).

**GENERAL WELDING NOTES:**  
-PERFORM NECESSARY WELD PREPS.  
-SEAL WELD ALL OPEN INTERFACES BETWEEN PLATE CONNECTIONS.  
-IDENTICAL WELDS SYMBOLISED ONCE ONLY.  
-ALL WELDS SHALL BE CONTINUOUS FULL PENETRATION WELDS.  
-REMOVE WELD SPATTER.  
-WELDERS SHALL BE CERTIFIED IN ACCORDANCE WITH ASME IX FOR THE RELEVANT WELDS SPECIFIED.  
-WELDING ELECTRODES FOR WELDING MILD STEEL TO STAINLESS STEEL SHALL CONTAIN E309L FILLER METAL IN ACCORDANCE WITH AWS A5.4.

**NOTE:**  
-FOR DETAILS OF THE EXISTING LAYOUT SEE: 163 760/12 ME  
163 762/12 ME  
163 767/12 ME  
-FOR HYDRAULIC LAYOUT SEE: 181 622/24 ME

ITEM	QTY	TITLE	MATERIAL	ASSEMBLY DRG	MASS	REMARKS	SHEET
19	48	ADHESIVE FOIL CAPSULE: M30 X 270 LONG	STANDARD	181618/24 ME		HILTI HVU2 OR EQUIVALENT	N/A
18	48	ANCHOR ROD: M30 X 380 LONG, FULLY THREADED C/W 2 WASHERS AND 2 NUTS	ST. STEEL 316 / A4	181618/24 ME	0,30 kg	HILTI HAS-U A4 OR EQUIVALENT	N/A
17	24	HEX SCREW M36 X 90 LONG C/W 1 WASHER	MILD STEEL	181618/24 ME	1,00 kg	SANS 1700, HDG - SANS 121	N/A
16	168	HEX SCREW M52 X 240 LONG C/W 2 WASHERS AND 1 NUT	MILD STEEL	181618/24 ME	5,00 kg	SANS 1700, HDG - SANS 121	N/A
15	112	HEX SCREW M45 X 260 LONG C/W 2 WASHERS AND 1 NUT	MILD STEEL	181618/24 ME	5,00 kg	SANS 1700, HDG - SANS 121	N/A
14	64	HEX SCREW M24 X 100 LONG C/W 2 WASHERS AND 1 NUT	MILD STEEL	181618/24 ME	0,48 kg	SANS 1700, HDG - SANS 121	N/A
13	224	HEX SCREW M45 X 220 LONG C/W 2 WASHERS AND 1 NUT	MILD STEEL	181618/24 ME	5,00 kg	SANS 1700, HDG - SANS 121	N/A
12	56	HEX SCREW M52 X 200 LONG C/W 2 WASHERS AND 1 NUT	MILD STEEL	181618/24 ME	4,69 kg	SANS 1700, HDG - SANS 121	N/A
11	56	THRUST RESTRAINT STUDS M52 X 605 LONG C/W 4 WASHERS AND 4 NUTS	MILD STEEL	181618/24 ME	10,00 kg	SANS 1700, HDG - SANS 121	N/A
10	8	GASKET: 3 THK. RAISED FACE TO SUIT DN 900 PIPE FLANGE	COMPRESSED FIBRE	181618/24 ME	0,70 kg	KLINGERSIL C-4400 OR EQUIVALENT	N/A
9	8	GASKET: 3 THK. RAISED FACE TO SUIT DN 150 PIPE FLANGE	COMPRESSED FIBRE	181618/24 ME	0,30 kg	KLINGERSIL C-4400 OR EQUIVALENT	N/A
8	4	HIGH PRESSURE HEXAGON NIPPLE: DN 25 (1") WITH MALE BSPT THREAD BOTH SIDES	ST. STEEL 304	181618/24 ME	0,08 kg	ASME B16.11 (CLASS 3000 lb)	N/A
7	4	DN 25 (1") PN 25 BALL VALVE, BSPT FEMALE THREADED BOTH SIDES	ST. STEEL 304	181618/24 ME	0,06 kg	SEE PARTICULAR SPECIFICATION DSP-1-1	N/A
6	4	FLANGE ADAPTOR DN 900 PN 40 C/W FASTENERS AND GASKETS 14 NOTCHES TO SUIT THRUST RESTRAINT STUDS (VIKING JOHNSON OR EQUIVALENT)	MILD STEEL	181618/24 ME	168,00 kg	SEE PARTICULAR SPECIFICATION DSP-1-1	N/A
5	4	DN 900 PN 40 SPHERICAL VALVE C/W HYDRAULIC CYLINDER AND POWER PACK	STANDARD	181618/24 ME	9100,00 kg	REPURPOSED FROM USUTU-RIVER GWS (Ex. Kliphoeck P/S)	N/A
4	8	DN 900 SPHERICAL VALVE SUPPORT	MILD STEEL	181618/24 ME	55,00 kg		4 OF 4
3	4	DN 900 SPOOL PIECE	3CR12 / MILD STEEL	181618/24 ME	760,00 kg		4 OF 4
2	4	DN 900 STRAIGHT PIPE	3CR12 / MILD STEEL	181618/24 ME	1039,00 kg		3 OF 4
1	4	DN 800 TO DN 900 EXPANDER PIPE	3CR12 / MILD STEEL	181618/24 ME	517,00 kg		2 OF 4

**GENERAL NOTES:**

**GENERAL DIMENSIONAL TOLERANCES (U.O.S.):**  
DIMENSIONS UP TO 120: ± 0,3 mm  
DIMENSIONS ABOVE 120 TO 400: ± 0,5 mm  
DIMENSIONS ABOVE 400 TO 1000: ± 0,8 mm  
DIMENSIONS ABOVE 1000: ± 2 mm  
FLATNESS & SQUARENESS TOLERANCE: 3 mm/m WIDE

**CORROSION PROTECTION:**  
-IN ACCORDANCE WITH DWS STANDARD SPECIFICATION DWS 9900.  
-ALL STAINLESS STEEL ITEMS TO BE PICKLED AND PASSIVATED AFTER MANUFACTURE.  
-ALL THREADS TO BE COATED WITH MOLYBDENUM DISULPHIDE LUBRICANT.  
-ANY MODIFICATIONS TO HDG ITEMS TO BE REPAIRED WITH ZINCFIX®

**PIPE END ROOT SHALL NOT DEVIATE FROM SQUARENESS TO THE PIPE AXIS BY MORE THAN 1,5 mm**

**OUTSIDE DIAMETER TOLERANCE:**  
FOR PIPES ≥ DN 250: +1,6 -0,8 OVER A DISTANCE OF 150 mm FROM PIPE END.

**DO NOT SCALE DRAWING**

**PROJECTION**  
SANS 10111

**REVISION**

REV No	DATE	DESCRIPTION	SIGNED
0	07/2024	ISSUED FOR CONSTRUCTION	

**DEPARTMENT OF WATER AND SANITATION**  
REPUBLIC OF SOUTH AFRICA

HEAD OFFICE: M/E ENGINEERING PRIVATE BAG X313 PRETORIA 0001

SEDIBENG BUILDING: 185 FRANCIS BAARD STREET PRETORIA (012) 336-7500

**DIRECTOR GENERAL**

DESIGN: A VAN SCHALKWYK  
DRAWN: A VAN SCHALKWYK

CHECKED: R. ROSE DE BEER 15/08/2024  
ENGINEER: M. MARAKALA 15/08/24  
DATE: 15/08/24

**BERG RIVER WATER SUPPLY SCHEME**

**DRAKENSTEIN PUMP STATION**  
**DISCHARGE PIPEWORK:**  
MODIFICATIONS TO DN 900 DISCHARGE PIPEWORK  
-INSTALLATION LAYOUT-

PROVINCE: WESTERN CAPE  
LOCALITY No.: G100-02  
CALCULATION FILE: ME / G 100-02

KEYCODES:  
DISTRICT: WORCESTER  
TENDER/ CONTRACT No.:

SHEET: 1 OF 4  
REG. No.: 181618/24 ME  
REV. No.: 0