

**LAINGSBURG FLOOD DAMAGE
BILL OF QUANTITIES**

SCHEDULE A: PRELIMINARY AND GENERAL

Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount R c
	SANS 1200 A	SCHEDULE A: PRELIMINARY AND GENERAL				
A.1	PSA 8.3	SCHEDULED FIXED-CHARGE AND VALUE- RELATED ITEMS				
A.1.1	PSA 8.3.1	Fixed preliminary and general charges	Sum			
A.1.2	PSA 8.3.2	Value-related preliminary and general charges	Sum			
A.2	PSA 8.4	SCHEDULED TIME-RELATED ITEMS				
A.2.1	PSA 8.4.1	Time-related preliminary and general charges	Sum			
A.3	8.5	SUMS STATED PROVISIONALLY BY THE ENGINEER				
	PSA 8.5.1	Works executed by the Contractor				
A.3.1		Control testing by commercial laboratory	Prov Sum			15,000.00
A.3.2		Percentage adjustment on Item A.3.1 for Contractor's overheads and profit (<i>State % and extend as an amount</i>)	%	R 15,000		
A.4	8.8	TEMPORARY WORKS				
A.4.1	PSA8.8.7	Dealing with water	Sum	-	-	
A.4.2	PSA 8.9	Wayleaves	Sum	-	-	
A.4.3	PSA 8.10	Compliance with OHS Act and Regulations (including the Construction Regulations, 2014)	Sum	-	-	
A.4.4	PSA 8.11	Contract nameboards	No	2	-	
A.4.5	PSA 8.13	Environmental Management	Sum	-	-	
A.4.6	PSA 8.14	Quality Management Plan	Sum	-	-	
		TOTAL SECTION A: Carried to Summary				R

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SCHEDULE B: BUFFELS RIVER PUT GABION PROTECTION

Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount R c
		SCHEDULE B: BUFFELS RIVER GABION PROTECTION				
B.1	SABS 1200 C	SITE CLEARANCE				
	PSC 8.2.1	Clear and grub:				
B.1.1		Area for Gabions	m ²	160		
	8.2.2	Remove and grub large trees and tree stumps of girth:				
B.1.2		a) Over 1,0 m and up to and including 2,0 m	No	1		
B.1.3		b) Over 2,0 m and up to and including 3,0 m	No	1		
	SABS 1200 D	EARTHWORKS				
B.2	8.3.2	BULK EXCAVATION				
	PSD 8.3.2(a)	Excavate in all materials for gabion construction and use as follows:				
B.2.1		a) Stockpile	m ³	50		
B.2.2		b) Fill behind gabions with material from river bed, compacted to 93% MAASHTO density (100% for sand)	m ³	70		
B.2.3		c) Fill behind gabions with material from stockpile, compacted to 93% MAASHTO density (100% for sand)	m ³	50		
B.2.4		d) Spread on site	m ³			Rate Only
	PSD 8.3.2(b)	Extra over item PSD 8.3.2(a) above for:				
B.2.5		1) Intermediate excavation	m ³			Rate Only
B.2.6		3) Boulder Excavation, Class A	m ³	50		
B.3	8.3.8	EXISTING SERVICES				
	PSD 8.3.8	Hand excavation for locating and exposing existing services:				
B.3.1		(a) Soft material	m ³	5		
B.3.2		(b) Intermediate material (Boulder Excavation - Class A)	m ³	5		
Carried forward / ...						

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SCHEDULE B: BUFFELS RIVER PUT GABION PROTECTION

Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount	
						R	c
		Brought forward / ...					
B.4	SABS 1200 DK	GABIONS AND PITCHING					
	8.2.1	Surface preparation for bedding of gabions					
B.4.1		a) Cavities filled with approved excavated material	m ²	110			
	PSDK 8.2.2	Supply and construct Gabions with mesh type 80 openings, with 2.7mm Class A Galfan (ZN95A15) and PVC coated wire (excluding supply of stone), for the following dimensions:					
B.4.2		2.0m x 1.0m x 1.0m	m ³	6			
B.4.3		3.0m x 1.0m x 1.0m	m ³	72			
	PSDK 8.2.2	Supply and construct Reno Matresses with mesh type 60 openings, with 2.2mm Class A Galfan (ZN95A15) and PVC coated wire (excluding supply of stone), for the following dimensions:					
B.4.5		3.0m x 2.0m x 0.3m	m ³	25			
B.4.6	8.2.4.	Supply and installation of non-woven geotextile (min 210g/m ²) and strength of 9.8Kn/m in all directions	m ²	210			
	PSDK 8.2.8	Extra over Item PSDK 8.2.2 for the supply of stone for gabions with material from:					
B.4.7		a) Commercial sources	m ³	103			
B.4.8		b) River Bed	m ³				Rate Only
		TOTAL SECTION B: Carried to Summary				R	

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SCHEDULE C: WILGERHOUT RIVER GABION PROTECTION

Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount R c
		SCHEDULE C: WILGERHOUT RIVER GABION PROTECTION				
C.1	SABS 1200 C	SITE CLEARANCE				
	PSC 8.2.1	Clear and grub:				
C.1.1		Pipelines	m	60		
C.1.2		Area for Gabions	m ²	410		
	8.2.2	Remove and grub large trees and tree stumps of girth:				
C.1.3		a) Over 1,0 m and up to and including 2,0 m	No	1		
C.1.4		b) Over 2,0 m and up to and including 3,0 m	No	1		
	SABS 1200 D	EARTHWORKS				
C.2	8.3.2	BULK EXCAVATION				
	PSD 8.3.2(a)	Excavate in all materials for gabion construction and use as follows:				
C.2.1		a) Stockpile	m ³	330		
C.2.2		b) Fill behind gabions with material from river bed, compacted to 93% MAASHTO density (100% for sand)	m ³			Rate Only
C.2.3		c) Fill behind gabions with material from stockpile, compacted to 93% MAASHTO density (100% for sand)	m ³	330		
C.2.4		d) Spread on site	m ³	175		
	PSD 8.3.2(c)	Extra over item PSD 8.3.2(a) above for:				
C.2.5		1) Intermediate excavation	m ³			Rate Only
C.2.6		3) Boulder Excavation, Class A	m ³	95		
C.3	8.3.8	EXISTING SERVICES				
	PSD 8.3.8	Hand excavation for locating and exposing existing services:				
C.3.1		(a) Soft material	m ³	5		
C.3.2		(b) Intermediate material (Boulder Excavation - Class A)	m ³	5		
Carried forward / ...						

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SCHEDULE C: WILGERHOUT RIVER GABION PROTECTION

Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount R c
		Brought forward / ...				
		PIPELINES				
	SABS 1200 DB	EARTHWORKS (PIPE TRENCHES)				
C.4	PSDB 8.3.8	REMOVAL OF EXISTING PIPES				
		a) Excavate in all materials to 300mm above the exiting pipeline for the following pipes:				
C.4.1		160mm dia	m	60		
C.4.2		200mm dia	m	60		
		b) Excavate by hand to dispose the exiting pipeline for the following pipes:				
C.4.3		160mm dia	m	60		
C.4.4		200mm dia	m	60		
		c) Remove pipes from trench and stack for inspection:				
C.4.5		160mm dia	m	60		
C.4.6		200mm dia	m	60		
		d) Deliver pipes and specials unsuitable for re-use				
C.4.7		Pipes	m	50		
C.4.8		Specials	No	2		
		e) Dispose of pipes and specials unsuitable for re-use				
C.4.9		Pipes	m	10		
C.4.10		Specials	No	2		
C.5	SABS 1200 LB	BEDDING (PIPES)				
	8.2.1	Supply only of bedding from trench excavations (selected course river sand material excluding large boulders):				
C.5.1		(a) Selected granular material	m ³	23		
C.5.2		(b) Selected fill material	m ³	31		
		Carried forward / ...				

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SCHEDULE C: WILGERHOUT RIVER GABION PROTECTION

Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount R c
		Brought forward / ...				
	8.2.2	Supply only of bedding by importation:				
	8.2.2.3	19mm Crushed stone material from commercial sources:				
C.5.3		(a) Selected granular material	m ³			Rate Only
C.5.4		(b) Selected fill material	m ³			Rate Only
C.6	SABS 1200 L	MEDIUM PRESSURE PIPELINES				
	8.2.1	Supply, handle, lay, bed, test and disinfect pipes complete, including butt welding the following pipes:				
C.6.1		160 mm dia HDPE PE100 PN10	m	60		
C.6.2		200 mm dia HDPE PE100 PN10	m	60		
	8.2.2	Extra over item 8.2.2 for the supply, lay, bed, joint (including butt welding) of specials and fittings, including cutting of pipes to length where required, testing and disinfecting for the following:				
		HDPE Stub flange with SS304 backing flange including SS nuts and bolts for the following pipes:				
C.6.3		160 mm dia HDPE PE100 PN10	No	2		
C.6.4		200 mm dia HDPE PE100 PN10	No	2		
		Stainless steel 304 flanged puddle pipe, 750 mm long for the following pipes:				
C.6.5		150 mm dia	No	2		
C.6.6		200 mm dia	No	2		
		Cl flange adaptors for the following pipes:				
C.6.7		150 mm dia	No	2		
C.6.8		200 mm dia	No	2		
		Carried forward / ...				

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SCHEDULE C: WILGERHOUT RIVER GABION PROTECTION

Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount	
						R	c
		Brought forward / ...					
C.6.9	PSL 8.2.11	Anchor/thrust blocks constructed complete, including excavation, formwork, concrete, backfill and compaction as indicated on the detail drawing: Class 25MPa/19mm Concrete	m ³	2			
C.6.10	PSL 8.2.18	Connect to existing supply pipeline with the following pipe sizes: 160 mm dia	No	2			
C.6.11		200 mm dia	No	2			
C.7	SABS 1200 DK	GABIONS AND PITCHING					
C.7.1	8.2.1	Surface preparation for bedding of gabions a) Cavities filled with approved excavated material	m ²	510			
C.7.2	PSDK 8.2.2	Supply and construct Gabions with mesh type 80 openings, with 2.7mm Class A Galfan (ZN95A15) and PVC coated wire (excluding supply of stone), for the following dimensions: 2.0m x 0.5m x 0.5m	m ³	65			
C.7.3		2.0m x 1.0m x 1.0m	m ³	12			
C.7.4		3.0m x 1.0m x 1.0m	m ³	126			
C.7.5	PSDK 8.2.2	Supply and construct Reno Matresses with mesh type 60 openings, with 2.2mm Class A Galfan (ZN95A15) and PVC coated wire (excluding supply of stone), for the following dimensions: 2.0m x 1.0m x 0.3m	m ³	36			
C.7.6		3.0m x 2.0m x 0.3m	m ³	96			
C.7.7		6.0m x 2.0m x 0.3m	m ³				Rate Only
C.7.8	8.2.4.	Supply and installation of non-woven geotextile (min 210g/m ²) and strength of 9.8Kn/m in all directions	m ²	640			
		Carried forward / ...					

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SCHEDULE C: WILGERHOUT RIVER GABION PROTECTION

Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount	
						R	c
		Brought forward / ...					
	PSDK 8.2.8	Extra over Item PSDK 8.2.2 for the supply of stone for gabions with material from:					
C.7.9		a) Commercial sources	m ³	335			
C.7.10		b) River Bed	m ³				Rate Only
C.8	SABS 1200 LE	STORMWATER PIPES					
C.8.1	PSLE 8.2.15	In-situ stone pitch stormwater channel complete to detail drawing number 109121-302C	m ²	35			
C.9		MISCELLANEOUS					
C.9.1	PSG	Construction of Concrete Channel Piece on top of Gabion Structure as per Detail Drawing No. 109121-302C	No	1			
		TOTAL SECTION C: Carried to Summary					R

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SCHEDULE D: BAVIAANS RIVER GABION PROTECTION

Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount R c
		SCHEDULE D: BAVIAANS RIVER GABION PROTECTION				
D.1	SABS 1200 C	SITE CLEARANCE				
	PSC 8.2.1	Clear and grub:				
D.1.1		Pipelines	m	40		
D.1.2		Area for Gabions	m ²	280		
	8.2.2	Remove and grub large trees and tree stumps of girth:				
D.1.3		a) Over 1,0 m and up to and including 2,0 m	No	2		
D.1.4		b) Over 2,0 m and up to and including 3,0 m	No	1		
	SABS 1200 D	EARTHWORKS				
D.2	8.3.2	BULK EXCAVATION				
	PSD 8.3.2(a)	Excavate in all materials for gabion construction and use as follows:				
D.2.1		a) Stockpile	m ³	440		
D.2.2		b) Fill behind gabions with material from river bed, compacted to 93% MAASHTO density (100% for sand)	m ³			Rate Only
D.2.3		c) Fill behind gabions with material from stockpile, compacted to 93% MAASHTO density (100% for sand)	m ³	80		
D.2.4		d) Fill on top of gabions in river bed with material from stockpile, compacted to 93% MAASHTO density (100% for sand)	m ³	140		
D.2.5		e) Spread on site	m ³	100		
	PSD 8.3.2(b)	Extra over item PSD 8.3.2(a) above for:				
D.2.6		1) Intermediate excavation	m ³			Rate Only
D.2.7		3) Boulder Excavation, Class A	m ³	220		
Carried forward / ...						

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SCHEDULE D: BAVIAANS RIVER GABION PROTECTION

Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount	
						R	c
		Brought forward / ...					
D.3	8.3.8	EXISTING SERVICES					
	PSD 8.3.8	Hand excavation for locating and exposing existing services:					
D.3.1		(a) Soft material	m ³	10			
D.3.2		(b) Intermediate material (Boulder Excavation - Class A)	m ³	5			
		PIPELINES					
	SABS 1200 DB	EARTHWORKS (PIPE TRENCHES)					
D.4	8.3.2	EXCAVATION					
	PSDB 8.3.2(a)	Excavate in all materials for trenches, select, backfill, compact and dispose of surplus material:					
		Pipes up to 200 mm dia for depth:					
D.4.1		(i) Up to 1,0 m	m				Rate Only
D.4.2		(ii) Over 1,0 m up to 1,5 m	m	20			
D.4.3		(iii) Over 1,5 m up to 2,0 m	m	20			
D.4.4		(iv) Over 2,0 m up to 2,5 m	m				Rate Only
	PSDB 8.3.2(b)	Extra over item PSDB 8.3.2(a) above for:					
D.4.5		Intermediate excavation (Boulder Excavation - Class A)	m ³	5			
		(3) Hand excavation and backfill where directed by the Engineer in:					
D.4.6		(a) Soft material	m ³	5			
D.4.7		(b) Intermediate material (Boulder Excavation - Class A)	m ³	5			
D.5	PSDB 8.3.8	REMOVAL OF EXISTING PIPES					
		a) Excavate in all materials to 300mm above the exiting pipeline for the following pipes:					
D.5.1		160mm dia	m	40			
D.5.2		200mm dia	m	40			
		Carried forward / ...					

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SCHEDULE D: BAVIAANS RIVER GABION PROTECTION

Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount	
						R	c
		Brought forward / ...					
		b) Excavate by hand to dispose the exiting pipeline for the following pipes:					
D.5.3		160mm dia	m	40			
D.5.4		200mm dia	m	40			
		c) Remove pipes from trench and stack for inspection:					
C.5.5		160mm dia	m	40			
C.5.6		200mm dia	m	40			
		d) Deliver pipes and specials declared reusable					
C.5.7		Pipes	m	35			
C.5.8		Specials	No	2			
		Dispose of pipes and specials unsuitable for re-use					
C.5.9		Pipes	m	5			
C.5.10		Specials	No	2			
C.6	SABS 1200 LB	BEDDING (PIPES)					
	8.2.1	Supply only of bedding from trench excavations (selected course river sand material excluding large boulders):					
D.6.1		(a) Selected granular material	m ³	12			
D.6.2		(b) Selected fill material	m ³	24			
	8.2.2	Supply only of bedding by importation:					
	8.2.2.3	19mm Crushed stone material from commercial sources:					
D.6.3		(a) Selected granular material	m ³				Rate Only
D.6.4		(b) Selected fill material	m ³				Rate Only
		Carried forward / ...					

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SCHEDULE D: BAVIAANS RIVER GABION PROTECTION

Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount	
						R	c
		Brought forward / ...					
D.7	SABS 1200 L	MEDIUM PRESSURE PIPELINES					
	8.2.1	Construct pipeline with recovered material from other excavations, including handle, lay, bed, test and disinfection of pipes complete and butt welding where required of the following pipes:					
D.7.1		160 mm dia HDPE PE100 PN10	m	40			
D.7.2		200 mm dia HDPE PE100 PN10	m	40			
	8.2.1	Supply, handle, lay, bed, test and disinfect pipes complete, including butt welding the following pipes:					
D.7.3		160 mm dia HDPE PE100 PN10	m				Rate Only
D.7.4		200 mm dia HDPE PE100 PN10	m				Rate Only
	8.2.2	Extra over item 8.2.2 for the supply, lay, bed, joint (including butt welding) of specials and fittings, including cutting of pipes to length where required, testing and disinfecting for the following:					
		HDPE Stub flange with SS304 backing flange including SS nuts and bolts for the following pipes:					
D.7.5		160 mm dia HDPE PE100 PN10	No	2			
D.7.6		200 mm dia HDPE PE100 PN10	No	2			
		Stainless steel 304 flanged puddle pipe, 750 mm long for the following pipes:					
D.7.7		150 mm dia	No	2			
D.7.8		200 mm dia	No	2			
		CI flange adaptors for the following pipes:					
D.7.9		150 mm dia	No	2			
D.7.10		200 mm dia	No	2			
		Carried forward / ...					

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SCHEDULE D: BAVIAANS RIVER GABION PROTECTION

Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount R c
		Brought forward / ...				
D.7.11	PSL 8.2.11	Anchor/thrust blocks constructed complete, including excavation, formwork, concrete, backfill and compaction as indicated on the detail drawing: Class 25MPa/19mm Concrete	m ³	1.2		
D.7.12	PSL 8.2.18	Connect to existing supply pipeline with the following pipe sizes: 160 mm dia	No	2		
D.7.13		200 mm dia	No	2		
D.8	SABS 1200 DK	GABIONS AND PITCHING				
D.8.1	8.2.1	Surface preparation for bedding of gabions a) Cavities filled with approved excavated material	m ²	480		
D.8.2	PSDK 8.2.2	Supply and construct Gabions with mesh type 80 openings, with 2.7mm Class A Galfan (ZN95A15) and PVC coated wire (excluding supply of stone), for the following dimensions: 2.0m x 0.5m x 0.5m	m ³	40		
D.8.3		2.0m x 1.0m x 1.0m	m ³	15		
D.8.4		3.0m x 1.0m x 1.0m	m ³	100		
D.8.5	PSDK 8.2.2	Supply and construct Reno Matresses with mesh type 60 openings, with 2.2mm Class A Galfan (ZN95A15) and PVC coated wire (excluding supply of stone), for the following dimensions: 2.0m x 1.0m x 0.3m	m ³	26		
D.8.6		3.0m x 2.0m x 0.3m	m ³	200		
D.8.7		6.0m x 2.0m x 0.3m	m ³			Rate Only
D.8.8	8.2.4.	Supply and installation of non-woven geotextile (min 210g/m ²) and strength of 9.8Kn/m in all directions	m ²	600		
		Carried forward / ...				

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SCHEDULE D: BAVIAANS RIVER GABION PROTECTION

Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount R c
	PSDK 8.2.8	Brought forward / ... Extra over Item PSDK 8.2.2 for the supply of stone for gabions with material from:				
D.8.9		a) Commercial sources	m ³			Rate Only
D.8.10		b) River Bed	m ³	385		
		TOTAL SECTION D: Carried to Summary			R	

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SECTION E: WASTE WATER TREATMENT WORKS GABION PROTECTION

Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount R c
SCHEDULE E: WASTE WATER TREATMENT WORKS GABION PROTECTION						
E.1	SABS 1200 C	SITE CLEARANCE				
	PSC 8.2.1	Clear and grub:				
E1.1		Area for Gabions	m ²	720		
	8.2.2	Remove and grub large trees and tree stumps of girth:				
E.1.2		a) Over 1,0 m and up to and including 2,0 m	No	1		
E.1.3		b) Over 2,0 m and up to and including 3,0 m	No	1		
EARTHWORKS						
E.2	SABS 1200 D	BULK EXCAVATION				
	8.3.2	BULK EXCAVATION				
	PSD 8.3.2(a)	Excavate in all materials for gabion construction and use as follows:				
E.2.1		a) Stockpile	m ³	495		
E.2.2		b) Fill behind gabions with material from river bed, compacted to 93% MAASHTO density (100% for sand)	m ³			Rate Only
E.2.3		c) Fill behind gabions with material from stockpile, compacted to 93% MAASHTO density (100% for sand)	m ³	80		
E.2.3		d) Spread on site	m ³	415		
	PSD 8.3.2(b)	Extra over item PSD 8.3.2(a) above for:				
E.2.4		1) Intermediate excavation	m ³			Rate Only
E.2.5		3) Boulder Excavation, Class A	m ³	100		
E.3	8.3.8	EXISTING SERVICES				
	PSD 8.3.8	Hand excavation for locating and exposing existing services:				
E.3.1		(a) Soft material	m ³	5		
E.3.2		(b) Intermediate material (Boulder Excavation - Class A)	m ³	5		
Carried forward / ...						

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SECTION E: WASTE WATER TREATMENT WORKS GABION PROTECTION

Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount	
						R	c
E.4	SABS 1200 DK	Brought forward / ... GABIONS AND PITCHING					
E.4.1	8.2.1	Surface preparation for bedding of gabions a) Cavities filled with approved excavated material	m ²	430			
E.4.2	PSDK 8.2.2	Supply and construct Gabions with mesh type 80 openings, with 2.7mm Class A Galfan (ZN95A15) and PVC coated wire (excluding supply of stone), for the following dimensions: 2.0m x 1.0m x 1.0m	m ³	20			
E.4.3	PSDK 8.2.2	3.0m x 1.0m x 1.0m Supply and construct Reno Matresses with mesh type 60 openings, with 2.2mm Class A Galfan (ZN95A15) and PVC coated wire (excluding supply of stone), for the following dimensions:	m ³	250			
E.4.4		3.0m x 1.0m x 0.3m	m ³	85			
E.4.5	8.2.4.	Supply and installation of non-woven geotextile (min 210g/m ²) and strength of 9.8Kn/m in all directions	m ²	600			
E.4.6	PSDK 8.2.8	Extra over Item PSDK 8.2.2 for the supply of stone for gabions with material from: a) Commercial sources	m ³	335			
E.4.7		b) River Bed	m ³				Rate Only
		TOTAL SECTION E: Carried to Summary				R	

**LAINGSBURG FLOOD DAMAGE
BILL OF QUANTITIES**

SECTION F: STORMS RIVER RETAINING WALL

Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount	
						R	c
		SCHEDULE F: STORMS RIVER RETAINING WALL					
F.1	SABS 1200 C	SITE CLEARANCE					
	PSC 8.2.1	Clear and grub:					
F.1.1		Area of Works	m ²	36			
F.1.2	PSC 8.2.18	Demolish and remove existing gabions	m ³	20			
F.1.3	PSC 8.2.19	Demolish and remove existing retaining wall	m	1.5			
F.1.4	PSC 8.2.20	Protection of existing structures	Sum				
	SABS 1200 D	EARTHWORKS					
F.2	8.3.2	BULK EXCAVATION					
	PSD 8.3.2(a)	Excavate in all materials for retaining wall construction and use as follows:					
F.2.1		a) Stockpile	m ³	40			
F.2.1		b) Spread on site	m ³	5			
F.2.2		c) Fill behind retaining wall with material from stockpile sources, compacted to 93% MAASHTO density (100% for sand)	m ³	40			
	PSD 8.3.2(c)	Extra over item PSD 8.3.2(a) above for:					
F.2.3		1) Intermediate excavation	m ³				Rate Only
F.2.4		3) Boulder Excavation, Class A	m ³	10			
F.3	8.3.8	EXISTING SERVICES					
	PSD 8.3.8	Hand excavation for locating and exposing existing services:					
F.3.1		(a) Soft material	m ³	5			
F.3.2		(b) Intermediate material (Boulder Excavation - Class A)	m ³	5			
Carried forward / ...							

**LAINGSBURG FLOOD DAMAGE
BILL OF QUANTITIES**

SECTION F: STORMS RIVER RETAINING WALL

Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount R c
F.4	SABS 1200 G	Brought forward / ... CONCRETE (SMALL WORKS)				
F.4.1	PSG 8.10	Construction of Concrete Retaing Wall complete as per detail drawing no. 109121-305A	m	30		
F.4.2	PSG 8.11	Construction of Vibracrete Wall complete as per detail drawing no. 109121-305A and as per manufacturers specifications.	m	33		
		TOTAL SECTION F: Carried to Summary			R	

**LAINGSBURG FLOOD DAMAGE
BILL OF QUANTITIES**

SCHEDULE G: GOLDNERVILLE CEMETERY GABION PROTECTION

Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount R c
SCHEDULE G : GOLDNERVILLE CEMETERY GABION PROTECTION						
G1	SABS 1200 C	SITE CLEARANCE				
	PSC 8.2.1	Clear and grub:				
G.1.1		Pipelines	m	16		
G.1.2		Area for Gabions	m ²	665		
G.1.3		Area for Stormwater Channel	m ²	350		
	SABS 1200 D	EARTHWORKS				
G.2	8.3.2	BULK EXCAVATION				
	PSD 8.3.2(a)	Excavate in all materials for gabion construction and use as follows:				
G.2.1		a) Stockpile	m ³	625		
G.2.2		b) Fill behind gabions with material from stockpile, compacted to 93% MAASHTO density (100% for sand)	m ³	625		
G.2.3		c) Spread on site	m ³	775		
	PSD 8.3.2(a)	Excavate in all materials for stormwater channel construction and use as follows:				
G.2.4		a) Spread on site	m ³	115		
	PSD 8.3.2(c)	Extra over item PSD 8.3.2(a) above for:				
G.2.5		1) Intermediate excavation	m ³			
G.2.6		3) Boulder Excavation, Class A	m ³	350		
G.3	8.3.8	EXISTING SERVICES				
	PSD 8.3.8	Hand excavation for locating and exposing existing services:				
G.3.1		(a) Soft material	m ³	5		
G.3.2		(b) Intermediate material (Boulder Excavation - Class A)	m ³	5		
Carried forward / ...						

**LAINGSBURG FLOOD DAMAGE
BILL OF QUANTITIES**

SCHEDULE G: GOLDNERVILLE CEMETERY GABION PROTECTION

Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount	
						R	c
		Brought forward / ...					
		STORMWATER DRAINAGE					
	SABS 1200 DB	EARTHWORKS (PIPE TRENCHES)					
G.4	8.3.2	EXCAVATION					
	PSDB 8.3.2(a)	Excavate in all materials for trenches, select, backfill, compact and dispose of surplus material:					
		Pipes over 200 mm dia up to 600 mm dia for depths:					
G.4.1		(i) Up to 1,0 m	m	16			
G.4.2		(ii) Over 1,0 m up to 1,5 m	m				Rate Only
	PSDB 8.3.2(b)	Extra over item PSDB 8.3.2(a) above for:					
G.4.3		Intermediate excavation (Boulder Excavation - Class A)	m ³	5			
		(3) Hand excavation and backfill where directed by the Engineer in:					
G.4.4		(a) Soft material	m ³	5			
G.4.5		(b) Intermediate material (Boulder Excavation - Class A)	m ³	5			
G.5	SABS 1200 LB	BEDDING (PIPES)					
	8.2.2	Supply only of bedding by importation:					
	8.2.2.1	From other necessary excavations					
G.5.1		(a) Selected granular material	m ³	2			
G.5.2		(b) Selected fill material	m ³	12			
G.6	SABS 1200 LE	STORMWATER PIPES					
	8.2.2	Supply, handle and lay spigot and socket type precast concrete pipes on a class C bedding:					
G.6.1		450mm dia class 100D	m	16			
		Carried forward / ...					

**LAINGSBURG FLOOD DAMAGE
BILL OF QUANTITIES**

SCHEDULE G: GOLDNERVILLE CEMETERY GABION PROTECTION

Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount	
						R	c
		Brought forward / ...					
G.7	PSLE 8.2.8	HEADWALLS					
		Construct pipe culvert inlet/outlet (headwall) structure complete to detail drawing for the following pipes:					
G.7.1		450mm dia	No	2			
G.8		STORMWATER CHANNEL					
G.8.1	PSLE 8.2.14	In-situ gravel lined stormwater channel complete to detail on drawing no. 109121-306A	m	225			
G.9	SABS 1200 DK	GABIONS AND PITCHING					
	8.2.1	Surface preparation for bedding of gabions					
G.9.1		a) Cavities filled with approved excavated material	m ²	1470			
	PSDK 8.2.2	Supply and construct Gabions with mesh type 80 openings, with 2.7mm Class A Galfan (ZN95A15) and PVC coated wire (excluding supply of stone), for the following dimensions:					
G.9.2		2.0m x 1.0m x 1.0m	m ³	16			
G.9.3		3.0m x 1.0m x 1.0m	m ³	594			
	PSDK 8.2.2	Supply and construct Reno Matresses with mesh type 60 openings, with 2.2mm Class A Galfan (ZN95A15) and PVC coated wire (excluding supply of stone), for the following dimensions:					
G.9.4		2.0m x 1.0m x 0.3m	m ³	78			
G.9.5		3.0m x 2.0m x 0.3m	m ³	235			
G.9.6	8.2.4.	Supply and installation of non-woven geotextile (min 210g/m ²) and strength of 9.8Kn/m in all directions	m ²	2600			
		Carried forward / ...					

**LAINGSBURG FLOOD DAMAGE
BILL OF QUANTITIES**

SCHEDULE G: GOLDNERVILLE CEMETERY GABION PROTECTION

Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount R c
		Brought forward / ...				
G.9.7	PSDK 8.2.8	Extra over Item PSDK 8.2.2 for the supply of stone for gabions with material from:				
G.9.8		a) Commercial sources	m ³	923		
		b) River Bed	m ³			Rate Only
		TOTAL SECTION G: Carried to Summary			R	

**LAINGSBURG FLOOD DAMAGE
BILL OF QUANTITIES**

SCHEDULE H: ZOUTKLOOF PUT GABION PROTECTION

Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount R c
		SCHEDULE H: ZOUTKLOOF PUT GABION PROTECTION				
C.1	SABS 1200 C	SITE CLEARANCE				
	PSC 8.2.1	Clear and grub:				
C.1.1		Pipelines	m	50		
C.1.2		Area for Gabions	m ²	35		
	8.2.2	Remove and grub large trees and tree stumps of girth:				
C.1.3		a) Over 1,0 m and up to and including 2,0 m	No	1		
C.1.4		b) Over 2,0 m and up to and including 3,0 m	No	1		
	SABS 1200 D	EARTHWORKS				
C.2	8.3.2	BULK EXCAVATION				
	PSD 8.3.2(a)	Excavate in all materials for gabion construction and use as follows:				
C.2.1		a) Stockpile	m ³	70		
C.2.2		b) Fill behind gabions, compacted to 93% MAASHTO density (100% for sand)	m ³	50		
C.2.3		c) Fill behind gabions with material from stockpile, compacted to 93% MAASHTO density (100% for sand)	m ³	70		
C.2.4		d) Spread on site	m ³			Rate Only
	PSD 8.3.2(b)	Extra over item PSD 8.3.2(a) above for:				
C.2.5		1) Intermediate excavation	m ³	5		
C.2.6		3) Boulder Excavation, Class A	m ³	35		
C.3	8.3.8	EXISTING SERVICES				
	PSD 8.3.8	Hand excavation for locating and exposing existing services:				
C.3.1		(a) Soft material	m ³	5		
C.3.2		(b) Intermediate material (Boulder Excavation - Class A)	m ³	5		
		Carried forward / ...				

**LAINGSBURG FLOOD DAMAGE
BILL OF QUANTITIES**

SCHEDULE H: ZOUTKLOOF PUT GABION PROTECTION

Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount R c
		Brought forward / ...				
		PIPELINES				
	SABS 1200 DB	EARTHWORKS (PIPE TRENCHES)				
C.4	8.3.2	EXCAVATION				
	PSDB 8.3.2(a)	Excavate in all materials for trenches, select, backfill, compact and dispose of surplus material:				
		Pipes up to 200 mm dia for depth:				
C.4.1		(i) Up to 1,0 m	m			Rate Only
C.4.2		(ii) Over 1,0 m up to 1,5 m	m	30		
C.4.3		(iii) Over 1,5 m up to 2,0 m	m			Rate Only
	PSDB 8.3.2(b)	Extra over item PSDB 8.3.2(a) above for:				
C.4.5		Intermediate excavation (Boulder Excavation - Class A)	m ³	5		
		(3) Hand excavation and backfill where directed by the Engineer in:				
C.4.6		(a) Soft material	m ³	5		
C.4.7		(b) Intermediate material (Boulder Excavation - Class A)	m ³	5		
C.6	SABS 1200 LB	BEDDING (PIPES)				
	8.2.1	Supply only of bedding from trench excavations (selected course river sand material excluding large boulders):				
C.6.1		(a) Selected granular material	m ³	5		
C.6.2		(b) Selected fill material	m ³	10		
	8.2.2	Supply only of bedding by importation:				
	8.2.2.3	19mm Crushed stone material from commercial sources:				
C.6.3		(a) Selected granular material	m ³			Rate Only
C.6.4		(b) Selected fill material	m ³			Rate Only
		Carried forward / ...				

**LAINGSBURG FLOOD DAMAGE
BILL OF QUANTITIES**

SCHEDULE H: ZOUTKLOOF PUT GABION PROTECTION

Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount R c
C.7	SABS 1200 L	Brought forward / ... MEDIUM PRESSURE PIPELINES				
C.7.1	8.2.1	Supply, handle, lay, bed, test and disinfect pipes complete, including butt welding the following pipes: 110 mm dia HDPE PE100 PN10	m	50		
C.7.4	8.2.2	Extra over item 8.2.2 for the supply, lay, bed, joint (including butt welding) of specials and fittings, including cutting of pipes to length where required, testing and disinfecting for the following: HDPE Stub flange with SS304 backing flange including SS nuts and bolts for the following pipes: 110 mm dia HDPE PE100 PN10	No	2		
C.7.7		Stainless steel 304 flanged puddle pipe, 750 mm long for the following pipes: 100 mm dia	No	2		
C.7.10		Cl flange adaptors for the following pipes: 100 mm dia	No	2		
C.7.13	PSL 8.2.11	Anchor/thrust blocks constructed complete, including excavation, formwork, concrete, backfill and compaction as indicated on the detail drawing: Class 25MPa/19mm Concrete	m ³	1.5		
C.7.14	PSL 8.2.18	Connect to existing supply pipeline with the following pipe sizes: 110 mm dia	No	2		
C.8	SABS 1200 DK	GABIONS AND PITCHING				
C.8.1	8.2.1	Surface preparation for bedding of gabions a) Cavities filled with approved excavated material	m ²	25		
Carried forward / ...						

**LAINGSBURG FLOOD DAMAGE
BILL OF QUANTITIES**

SCHEDULE H: ZOUTKLOOF PUT GABION PROTECTION

Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount	
						R	c
		Brought forward / ...					
C.8.4	PSDK 8.2.2	Supply and construct Gabions with mesh type 80 openings, with 2.7mm Class A Galfan (ZN95A15) and PVC coated wire (excluding supply of stone), for the following dimensions: 2.0m x 1.0m x 1.0m	m ³	14			
C.8.5		3.0m x 1.0m x 1.0m	m ³	162			
C.8.6	PSDK 8.2.2	Supply and construct Reno Matresses with mesh type 60 openings, with 2.2mm Class A Galfan (ZN95A15) and PVC coated wire (excluding supply of stone), for the following dimensions: 2.0m x 1.0m x 0.3m	m ³				Rate Only
C.8.7		3.0m x 2.0m x 0.3m	m ³	53			
C.8.9	8.2.4.	Supply and installation of non-woven geotextile (min 210g/m ²) and strength of 9.8Kn/m in all directions	m ²	341			
C.8.10	PSDK 8.2.8	Extra over Item PSDK 8.2.2 for the supply of stone for gabions with material from: a) Commercial sources	m ³	215			
C.8.11		b) River Bed	m ³				Rate Only
TOTAL SECTION C: Carried to Summary						R	

**LAINGSBURG FLOOD DAMAGE
BILL OF QUANTITIES**

SUMMARY OF SCHEDULES

SCHEDULE	DESCRIPTION	PG	AMOUNT (R)
A	PRELIMINARY AND GENERAL	C2.5	
B	BUFFELS RIVER GABION PROTECTION	C2.7	
C	WILGERGOUT RIVER GABION PROTECTION	C2.12	
D	BAVIAANS RIVER GABION PROTECTION	C2.18	
E	WASTE WATER TREATMENT WORKS GABION PROTECTION	C2.20	
F	STORMS RIVER RETAINING WALL	C2.22	
G	GOLDNERVILLE CEMETERY GABION PROTECTION	C2.26	
H	ZOUTKLOOF PUT GABION PROTECTION	C2.30	
SUBTOTAL			
Plus 10% contingencies to be spent in part or as a whole at the sole discretion of the Employer			-
SUBTOTAL			-
Plus 14% VAT			-
TOTAL: TENDER SUM			-