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Heaton Nicholls Drive, Pinetown, Ward 18: Stormwater Infrastructure upgrade, protection works and reinstatement of the road

BILL OF QUANTITIES

SECTION 1 Preliminaries and Generals

PART AA PRELIMINARIES

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	GCC 2015	GENERAL CONDITIONS OF CONTRACT (GCC 2015) READ IN CONJUNCTION WITH THE CONTRACT DATA Fixed Charge obligations	sum	1		
2	GCC 2015	Time Related obligations	sum	1		
3	SANS 1921-1, SANS 1200A	SANS 1921-1 : GENERAL ENGINEERING AND CONSTRUCTION WORKS READ IN CONJUNCTION WITH THE ASSOCIATED SPECIFICATION DATA IN THE SCOPE OF WORKS Fixed Charge Items	sum	1		
4	SANS 1921-1, SANS 1200A	Time Related Items	sum	1		
5	C.1.2.3.1, PS.13.1	COMMUNITY LIAISON OFFICER Allow for a CLO to be appointed.	PC Sum	126360	1.00	126,360.00
6	SANS 1200A 8.6.b	Handling costs in respect to item 5 above. Tenderer to state % Mark-up (Mark-up =.....%)	%	126360		
7	C.1.2.3.4, PS.13.2	Allow for the weekly submission of proof of employment of local labour	sum	1		
8	GCC 2015	Contractor fixed obligations	sum	1		

TOTAL CARRIED TO SECTION 1 SUMMARY: Preliminaries and Generals

R

PART AB GENERAL SPECIFICATIONS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	AB.4, PS.AB.1.2	Contractor's Camp Site / Store Yard	sum	1		
2	AB.5, PS.AB.5	Notice Board	sum	1		
3	AB.7, PS.15.2, PS.AB.4	Road Deviations	sum	1		
4	AB.7, PS.24	Initial supply of all signs, barricades and delineators	sum	1		
5	AB.6	Cost of Samples and Contractor's Preliminary and Site Control Testing	sum	1		
6	AB.7, PS.24	Maintenance of Pedestrian and Traffic Facilities	sum	1		
7	AB.7, PS.24	Maintenance of all signs, barricades and delineators	sum	1		

Heaton Nicholls Drive, Pinetown, Ward 18: Stormwater Infrastructure upgrade, protection works and reinstatement of the road
Part Continued PART AB GENERAL SPECIFICATIONS

Item	Clause	Description	Unit	Quantity	Rate	Amount
8	PS.11	Site Security	PC Sum	300000	1.00	300,000.00
9	SANS 1200A.8.6.b	Handling costs in respect to item 8 above. Tenderer to state % Mark-up (Mark-up =.....%)	%	300000		
10	PS.14.1	Survey coordination of existing valves, manholes, catchpits, and cable duct markers	sum	1		
11	PS.14.3	Setting Out	sum	1		
12	PS.14.4	Survey for, and Preparation of, 'As-Built' Drawings	sum	1		
13	PS.15.1	Stream Deviations	sum	1		
14	PS.AB.6	Acceptance testing: Allow for testing of material by SANAS accredited Specialised Materials Testing Laboratory as directed by Engineer on Site	sum	1		
15	PS.14.5	Survey Required by Engineer	sum	1		

TOTAL CARRIED TO SECTION 1 SUMMARY: Preliminaries and Generals
R
PART AH OCCUPATIONAL HEALTH and SAFETY

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	AH.14.1	Contractor's initial obligations in respect of the Occupational Health and Safety Act and Construction Regulations	sum	1		
2	AH.14.2	Contractor's time related obligations in respect of the Occupational Health and Safety Act and Construction Regulations	sum	1		
3	AH.14.3	Submission of the Health and Safety File	sum	1		
4	AH.14.4	Application for Work Permit to DOEL (Once off Fee R450) per Regulation Gazette 11465 Volume 685 No 47109	PC Sum	10000	1.00	10,000.00

TOTAL CARRIED TO SECTION 1 SUMMARY: Preliminaries and Generals
R

Heaton Nicholls Drive, Pinetown, Ward 18: Stormwater Infrastructure upgrade, protection works and reinstatement of the road

SECTION 2 Site Clearance

PART B SITE CLEARANCE

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	B.8.2	General clearance and grubbing in road reserve	m2	500		
2	B.8.2	General clearance and grubbing in contractor's camp site	m2	230		
3	B.8.2	General clearance and grubbing in temporary stockpile area	m2	300		
4	B.8.4	Removal of trees of girth exceeding 1,5 m	no.	2		
5	B.8.7	Removal of bollards and spoil at tip Rate to include all haulage	no.	2		
6	B.8.10	Removal of unreinforced concrete	m3	25		
7	B.8.11	Removal of reinforced concrete	m3	30		
8	B.8.10	Removal of underground unreinforced concrete	m3	20		
9	B.8.11	Removal of underground reinforced concrete	m3	15		
10	B.8.14	Removal of roadways to tip	m3	24		
11	B.8.16	Removal of kerb and channel/fillet to tip	m3	5		
12	B.8.16	Removal of precast kerb to tip	m3	5		
13	B.8.19	Removal of disused pipes, 300 - 500 mm diameter and spoil at tip. Rate to include all haulage	m	50		
14	B.8.19	Removal of disused pipes, greater than 800 mm diameter and spoil at tip. Rate to include all haulage	m	64		
15	B.8.21	Backfilling with suitable material imported from an off-site source	m3	50		

TOTAL CARRIED TO SECTION 2 SUMMARY: Site Clearance

R

Heaton Nicholls Drive, Pinetown, Ward 18: Stormwater Infrastructure upgrade, protection works and reinstatement of the road

SECTION 3 Earthworks

PART DA EARTHWORKS : BULK

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	DA.8.2	Excavate topsoil and spoil at tip	m3	10		
2	DA.8.3	Excavate soft material to stockpile	m3	30		
3	DA.8.3	Extra over for excavation in hard material to stockpile	m3	10		
4	DA.8.3	Excavate soft material to spoil	m3	60		
5	DA.8.3	Excavate unsuitable material below embankments or formation and spoil at tip	m3	10		
6	DA.8.5	Compact soft material from site to 95% Mod. A.A.S.H.T.O.	m3	80		
7	DA.8.9	Formation	m2	300		
8	DA.8.10	Overhaul	m3km	80		

TOTAL CARRIED TO SECTION 3 SUMMARY: Earthworks

R

PART DB EARTHWORKS FOR PIPE TRENCHES

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	DB.8.5	Excavate and backfill in all material where depth is:- - Over 0,0 m and not exceeding 1,5 m	m3	45		
2	DB.8.5	Excavate and backfill in all material where depth is:- - Over 1,5 m and not exceeding 2,0 m	m3	20		
3	DB.8.5	Excavate and backfill in all material where depth is:- - Over 2,5 m and not exceeding 3,0 m	m3	30		
4	DB.8.5	Excavate and backfill in all material for 450 mm diameter pipe where depth is :- - Over 2,5 m and not exceeding 3,0 m	m	20		
5	DB.8.5	Excavate and backfill in all material for 1200 mm diameter pipe where depth is :- - Over 3,0 m and not exceeding 3,5 m	m	50		
6	DB.8.8	Excavation of unsuitable material from trench bottom and spoil at tip	m3	10		
7	DB.8.9	Provision of selected fill for pipe bedding from a commercial or off-site source	m3	20		

TOTAL CARRIED TO SECTION 3 SUMMARY: Earthworks

R

PART DC EARTHWORKS FOR CONCRETE LINED CANALS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	DA.8.2	Excavate in soft material to spoil	m3	50		

Heaton Nicholls Drive, Pinetown, Ward 18: Stormwater Infrastructure upgrade, protection works and reinstatement of the road

Part Continued **PART DC EARTHWORKS FOR CONCRETE LINED CANALS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
2	DC.8.2	Extra over item [undercut]for excavating unsuitable material below planned depth and spoil	m3	15		
3	DC.8.3	Backfilling and compaction using material from stockpile	m3	20		
4	DC.8.3	Backfilling and compaction using material from contractor's own source. Rate to include all haulage and royalties	m3	30		
5	PS.DC.8.6	Stone mat bedding	m3	40		

TOTAL CARRIED TO SECTION 3 SUMMARY: Earthworks

R

PART DD EARTHWORKS FOR STRUCTURES

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	DD.8.2	Excavate in all material for culvert etc. to stockpile	m3	10		
2	DD.8.2	Excavate in all material for culvert etc. to spoil	m3	102		
3	DD.8.2	Restricted excavation in all material for wall key etc. to stockpile	m3	10		
4	DD.8.2	Restricted excavation in all material for wall key etc to spoil	m3	20		
5	DD.8.3	Backfill and compact using imported material from contractor's own source. Rate to include all haulage and royalties	m3	60		
6	DD.8.4	Overhaul	m3km	60		
7	DD.8.5	Culvert bedding (19mm stone mat)	m3	15		
8	PS.DD.8.6	Design, installation and removal of a ground lateral support system to secure the excavated surfaces	sum	1		

TOTAL CARRIED TO SECTION 3 SUMMARY: Earthworks

R

Heaton Nicholls Drive, Pinetown, Ward 18: Stormwater Infrastructure upgrade, protection works and reinstatement of the road

SECTION 4 Kerbs,sidewalks and guardrails

PART EF KERBS AND HAUNCHES

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	EF.8.1	Type A barrier kerb and channel	m	108		
2	EF.8.1	Type C mountable kerb and channel	m	20		
3	EF.8.1	Type A barrier kerb and fillet	m	110		
4	EF.8.1	Scoop kerb and channel (Type A) including transition kerb	m	10		
5	EF.8.1	Scoop kerb and channel (Type C - mountable) including transition kerb	m	10		
6	EF.8.1	Extra over item [Type A barrier kerb and channel] for graded channel	m	20		
7	PS.EF.8.3	Excavation for kerb and channel/ fillet in existing asphalt layers	m3	30		

TOTAL CARRIED TO SECTION 4 SUMMARY: Kerbs,sidewalks and guardrails

R

PART EG SIDEWALKS, FOOTPATHS and MEDIAN AREAS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	EG.8.2	Supply and lay precast concrete sidewalk using 450x450 slabs	m2	110		

TOTAL CARRIED TO SECTION 4 SUMMARY: Kerbs,sidewalks and guardrails

R

PART EH STEEL GUARDRAILS & CONC. MEDIAN BARRIERS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	EH.8.1	Straight steel guard rails	m	40		
2	EH.8.1	End wings	no.	2		
3	EH.8.1	Precast concrete posts	no.	20		

TOTAL CARRIED TO SECTION 4 SUMMARY: Kerbs,sidewalks and guardrails

R

Heaton Nicholls Drive, Pinetown, Ward 18: Stormwater Infrastructure upgrade, protection works and reinstatement of the road

SECTION 5 Road layerworks and surfacing

PART EB GRADED CRUSHED STONE

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	EB.8.1	Supply, lay and compact graded crushed stone, 150 mm thick G2 material compacted to 98% MOD A.A.S.H.T.O.	m3	60		
2	EB.8.2	Prime coat	m2	400		

TOTAL CARRIED TO SECTION 5 SUMMARY: Road layerworks and surfacing

R

PART EC CEMENT TREATED GRADED CRUSHED STONE

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	EC.8.1	Supply, lay and compact cement treated graded crushed stone, 200 mm thick C4 material compacted to 98% MOD A.A.S.H.T.O.	m3	80		

TOTAL CARRIED TO SECTION 5 SUMMARY: Road layerworks and surfacing

R

PART ED ROAD ASPHALT

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	ED.8.1, PS.ED.9-14	Private Plant Asphalt Sa-H20. Continuously graded wearing course of compacted thickness of 50 mm. Bitumen content % as per mix design entered at time of use.	m2	350		
2	PS.ED.8.6	Prime Coat 0.6litres/m2	m2	350		

TOTAL CARRIED TO SECTION 5 SUMMARY: Road layerworks and surfacing

R

PART PB PAVEMENT LAYERS OF GRAVEL MATERIAL

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PB.6.2	Supply, lay and compact graded crushed stone, 150 mm thick G7 Gravel Selected layer to 93% MOD AASHTO (from commercial source)	m3	120		
2	PB.6.4	Supply, lay and compact graded crushed stone, 150 mm thick G7 Gravel subbase to 95% MOD AASHTO (from commercial source)	m3	120		
3	PB.6.7	Compacting Scarified Surface	m2	200		

TOTAL CARRIED TO SECTION 5 SUMMARY: Road layerworks and surfacing

R

Heaton Nicholls Drive, Pinetown, Ward 18: Stormwater Infrastructure upgrade, protection works and reinstatement of the road

SECTION 6 Protection works

PART C CONCRETE WORK

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C.8.1	Grade 15/19 concrete blinding of thickness 75 mm	m2	120		
2	C.8.1	Grade 25/19 concrete in footings	m3	40		
3	C.8.1	Grade 30/19 concrete in wingwalls	m3	4.5		
4	C.8.1	Grade 30/19 concrete in retaining wall stem	m3	25		
5	C.8.2	Mild steel reinforcement	t	5		
6	C.8.2	High tensile steel reinforcement	t	8		
7	C.8.2	High tensile steel fabric reinforcement ref: 245	t	0.6		

TOTAL CARRIED TO SECTION 6 SUMMARY: Protection works

R

PART F PROTECTION WORKS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	F.8.1	Topsoiling from stockpile	m2	120		
2	F.8.1	Imported topsoil: thickness 150 mm	m2	80		
3	F.8.2	Overhaul	m3km	80		
4	F.8.4	Stone pitching	m2	40		
5	F.8.6	Gabion boxes : 1000 mm depth	m3	15		
6	F.8.6	Gabion mattresses, 300 mm thick	m3	10		
7	PS.F.8.9	Wrap pipe through wall	no.	7		
8	F.8.6	Extra over item [specify] for non-standard shape gabion boxes and mattresses	m3	5		

TOTAL CARRIED TO SECTION 6 SUMMARY: Protection works

R

Heaton Nicholls Drive, Pinetown, Ward 18: Stormwater Infrastructure upgrade, protection works and reinstatement of the road
SECTION 7 Stormwater pipes and manholes
PART C CONCRETE WORK

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C.8.1	Grade 30/26 concrete in base slabs	m3	30		
2	C.8.2	High tensile steel reinforcement	t	0.5		
3	C.8.3	Class 3a shuttering to base slabs	m2	15		

TOTAL CARRIED TO SECTION 7 SUMMARY: Stormwater pipes and manholes
R
PART PG NON PRESSURE PIPELINES and PC CULVERTS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PG.8.2	450 mm diameter concrete Class 75D	m	50		
2	PG.8.9	Grade 15/26 concrete blinding	m3	2		
3	PG.8.9	Grade 20/19 concrete to base	m3	3		
4	PG.8.11, PS.PG.8.15	Drainage grade geofabric blanket as surround to subsoil drainage	m2	120		
5	PG.8.12, PS.PG.8.12, PS.PG.3.5	100 mm diameter pitch fibre sub-soil pipes	m	120		
6	PG.8.7	Standard precast concrete portal culvert : SAR loading Class 1 - 1500 x 1200 mm	m	48		
7	PG.8.8	E.O. item 8 for non standard end unit of length 1.2 m	no.	3		

TOTAL CARRIED TO SECTION 7 SUMMARY: Stormwater pipes and manholes
R
PART PH MANHOLES and APPURTENANT DRAINAGE WORKS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PH.8.2, PS.PH.5.5, PS.PH.3.1	Manhole type A with inlet type cover S2. Depth :- - Over 1,5 m and not exceeding 2,0 m	no.	3		
2	PH.8.2, PS.PH.5.5, PS.PH.3.1	Manhole type A with inlet type cover D3. Depth :- - Over 1,5 m and not exceeding 2,0 m	no.	1		
3	PH.8.3, PS.PH.5.5, PS.PH.3.1	Standard inlet type D3. Depth :- - Over 1,5 m and not exceeding 2,0 m	no.	1		
4	PH.8.3, PS.PH.5.5, PS.PH.3.1	Standard inlet type S2. Depth :- - Over 1,5 m and not exceeding 2,0 m	no.	3		

TOTAL CARRIED TO SECTION 7 SUMMARY: Stormwater pipes and manholes
R

Heaton Nicholls Drive, Pinetown, Ward 18: Stormwater Infrastructure upgrade, protection works and reinstatement of the road

SECTION 8 Trapezoidal concrete channel

PART C CONCRETE WORK

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C.8.1	Grade 20/26 concrete in base slabs	m3	7		
2	C.8.1	Grade 20/26 concrete in trapezoidal channel side slopes	m3	18		
3	C.8.2	High tensile steel fabric reinforcement ref: 245	t	0.7		

TOTAL CARRIED TO SECTION 8 SUMMARY: Trapezoidal concrete channel

R

Heaton Nicholls Drive, Pinetown, Ward 18: Stormwater Infrastructure upgrade, protection works and reinstatement of the road

SECTION 9 Reinstatement

PART S REINSTATEMENT

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	S.8.1	Reinstatement of ground surface	m2	120		
2	S.8.1	Reinstatement of ground surface on temporary stockpile site	m2	400		
3	S.8.1	Reinstatement of ground surface at temporary pipeyard	m2	200		
4	S.8.1	Reinstatement of ground surface on pipeline route	m2	400		

TOTAL CARRIED TO SECTION 9 SUMMARY: Reinstatement

R

Heaton Nicholls Drive, Pinetown, Ward 18: Stormwater Infrastructure upgrade, protection works and reinstatement of the road

SECTION 10 Road signs and markings

PART TA ROAD SIGNS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	TA.8.1	Supply and erect road sign boards, area not exceeding 2m2	m2	6		
2	TA.8.4	Concrete grade 20/19 for road sign footings	m3	2		

TOTAL CARRIED TO SECTION 10 SUMMARY: Road signs and markings

R

PART TB ROAD MARKINGS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	TB.8.1.1, PS.TB.8.4	Painted road lines 150mm wide (white), including setting out and premarking	m	100		
2	TB.8.1.2, PS.TB.8.4	Road Marking for lettering, symbols and traffic islands (white), including setting out lettering, symbols and traffic island markings.	m2	100		
3	PS.TB.8.5, PS.TB.8.4	Road Marking for lettering, symbols and traffic islands (white), including setting out lettering, symbols and traffic island markings.	m2	20		
4	TB.8.3	Roadstuds	no.	3		

TOTAL CARRIED TO SECTION 10 SUMMARY: Road signs and markings

R

SUMMARY OF BILL OF QUANTITIES

1	Preliminaries and Generals		R	_____
	AA PRELIMINARIES	R		_____
	AB GENERAL SPECIFICATIONS	R		_____
	AH OCCUPATIONAL HEALTH and SAFETY	R		_____
2	Site Clearance		R	_____
	B SITE CLEARANCE	R		_____
3	Earthworks		R	_____
	DA EARTHWORKS : BULK	R		_____
	DB EARTHWORKS FOR PIPE TRENCHES	R		_____
	DC EARTHWORKS FOR CONCRETE LINED CANALS	R		_____
	DD EARTHWORKS FOR STRUCTURES	R		_____
4	Kerbs,sidewalks and guardrails		R	_____
	EF KERBS AND HAUNCHES	R		_____
	EG SIDEWALKS, FOOTPATHS and MEDIAN AREAS	R		_____
	EH STEEL GUARDRAILS & CONC. MEDIAN BARRIERS	R		_____
5	Road layerworks and surfacing		R	_____
	EB GRADED CRUSHED STONE	R		_____
	EC CEMENT TREATED GRADED CRUSHED STONE	R		_____
	ED ROAD ASPHALT	R		_____
	PB PAVEMENT LAYERS OF GRAVEL MATERIAL	R		_____
6	Protection works		R	_____
	C CONCRETE WORK	R		_____
	F PROTECTION WORKS	R		_____
7	Stormwater pipes and manholes		R	_____
	C CONCRETE WORK	R		_____
	PG NON PRESSURE PIPELINES and PC CULVERTS	R		_____
	PH MANHOLES and APPURTENANT DRAINAGE WORKS	R		_____
8	Trapezoidal concrete channel		R	_____
	C CONCRETE WORK	R		_____
9	Reinstatement		R	_____
	S REINSTATEMENT	R		_____
10	Road signs and markings		R	_____
	TA ROAD SIGNS	R		_____
	TB ROAD MARKINGS	R		_____

Heaton Nicholls Drive, Pinetown, Ward 18: Stormwater Infrastructure upgrade, protection works and reinstatement of the road

SUB TOTAL

R _____

ADD VAT (15%) - (only if a registered VAT Vendor)

R _____

TOTAL CARRIED TO FORM OF TENDER

R _____
