BORROWPIT 1 - POTENTIAL IMPACT – CONSTRUCTION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
1.1 Soil Compaction and Erosion ***Activities:*** • Clearing and grubbing • Stripping of topsoil • Creation of stormwater drainage systems ***Description:*** The compaction of soil may occur during the site preparation phase as a result of operating heavy machinery. Compaction of soil may result in the loss of soil viability which will affect the ability of the vegetation to recover. Compacted soil decreases infiltration and therefore increases the amount of surface runoff which will contribute to the rate of erosion. The removal of vegetation cover and exposure of underlying soil will increase the risk of erosion, particularly on steeper slopes. Erosion may result in the loss of viable topsoil and downstream impacts on the receiving water bodies.	Surface Disturbance	**Negative Direct**	**M**	**M**	**S**	**L**	**H**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.4** **6.7**
1.2 Soil Pollution ***Activities:*** • Operation of machinery ***Description:*** The operation of heavy machinery during the stripping and clearing of the borrowpit may result in spillages of hydraulic oils due to breakdowns or spillages of diesel during refuelling in the field. Spillages may result in the pollution of soil which could affect soil viability.	Hazardous Waste	**Negative Direct**	**M**	**S**	**S**	**P**	**H**	**H**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.3** **6.4** **6.13** **6.14**
1.3 Air Pollution ***Activities:*** • Clearing and grubbing • Stripping of topsoil • Creation of stormwater drainage systems • Stripping of overburden ***Description:*** Vehicle emissions (exhaust emissions) will be generated by the operation of plant on site. Dust will be generated from the use of machinery during the stripping of vegetation, topsoil and overburden. Exposed surfaces will contribute to atmospheric dust particularly during high wind conditions. Excessive exposure to dust will impact on human health. Lower levels may be considered of nuisance value. The impact on Public Health and Safety is discussed under Section 1.10 below. There is a police station about 220m to the north west of the site. The nearest houses lie approximately 500m to the east.	Emissions to Air (Gaseous) Emissions to Air (Particulate – Dust)	**Negative Direct**	**M**	**S**	**S**	**D**	**H**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.5**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low	MITIGATION REF: Refers to chapter in EMP document.		

BORROWPIT 1 - POTENTIAL IMPACT – CONSTRUCTION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
1.13 Change in Landuse ***Activities:*** • General mining activities ***Description:*** The expansion of the borrowpit will result in a temporary change of landuse which will be largely reinstated on closure.	Surface disturbance, change in landform and topography	**Negative Direct**	**M**	**L**	**S**	**D**	**H**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.10**
1.14 Economic Development, income generation and social upliftment ***Activities:*** • Procurement of goods and services • Employment and training ***Description:*** The site establishment phase is likely to require the use of generalized and specialized services. Preference will be given to local service providers and suppliers where possible and to the employment of local labour. Employment of local labour, use of existing SMME's based in the area, and the support of local businesses in the supply of goods and services will benefit the regional economy.	Materials Consumption, recruitment and training	**Positive Direct and Indirect**	**M+**	**M**	**R**	**P**	**M**	**N/A**	**MEDIUM POSITIVE**		**6.16** **6.17**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low	MITIGATION REF: Refers to chapter in EMP document.		

BORROWPIT 1 - POTENTIAL IMPACT – CLOSURE PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
3.1 Soil Compaction and Erosion ***Activities:*** • Shaping of the borrowpit • Topsoiling ***Description:*** Refer to Section 1.1	Surface Disturbance	**Negative Direct**	**M**	**M**	**S**	**L**	**H**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.4** **6.7**
3.2 Soil Pollution ***Activities:*** • Operation of machinery ***Description:*** Refer to Section 1.2	Hazardous Waste	**Negative Direct**	**M**	**S**	**S**	**P**	**M**	**H**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.3** **6.4** **6.13** **6.14**
3.3 Air Pollution ***Activities:*** • Shaping of the borrowpit • Topsoiling ***Description:*** Refer to Section 1.3	(Gaseous) Emissions to Air (Particulate – Dust)	**Negative Direct**	**M**	**S**	**S**	**D**	**H**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.5**
3.4 Surface Water Pollution (Dirty Water Runoff and Pollutants) ***Activities:*** • Shaping of the borrowpit • Topsoiling ***Description:*** Refer to Section 1.4	Release to water (diffuse & point)	**Negative Direct**	**M**	**M**	**L**	**P**	**H**	**H**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.3** **6.4**
3.5 Spread of invasive alien species ***Activities:*** • Spreading of topsoil • Hydroseeding ***Description;*** Refer to Section 1.6	Surface Disturbance	**Negative Direct**	**L**	**L**	**S**	**L**	**H**	**H**	**LOW NEGATIVE**	**LOW NEGATIVE**	**6.8**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
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BENCH MARK CO-ORDINATE LIST
SURVEY BASED ON WGS 84 LO27 (APPROX)- BY GPS

Code	Tag	Y	X	Elevation
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BM7	12mm_PEG	-1957.266	3515163.111	1044.003
BM6	12mm_PEG	-1907.949	3515293.178	1049.034
BM5	12mm_PEG	-1915.127	3515365.698	1047.398

FENCE LINE: AREA = 17224.03m2; PERIMETER = 527.38m

Coordinate No.	Name	Y	X	Length	(Segment)
1	F1	-1946.689	3515200.930	19.223	F1 > F2
2	F2	-1965.798	3515198.840	52.936	F2 > F9
3	F9	-2015.098	3515218.119	25.030	F9 > F10
4	F10	-2002.505	3515239.752	46.523	F10 > F3
5	F3	-2033.574	3515274.379	92.734	F3 > F4
6	F4	-2016.854	3515365.594	64.634	F4 > F5
7	F5	-1958.632	3515393.660	33.261	F5 > F6
8	F6	-1938.627	3515367.087	44.481	F6 > F7
9	F7	-1902.201	3515341.559	30.228	F7 > F8
10	F8	-1904.291	3515311.403	118.329	F8 > F1

DESIGN SETTING OUT POINTS
BASED ON WGS84 LO27 (APPROX) - BY GPS

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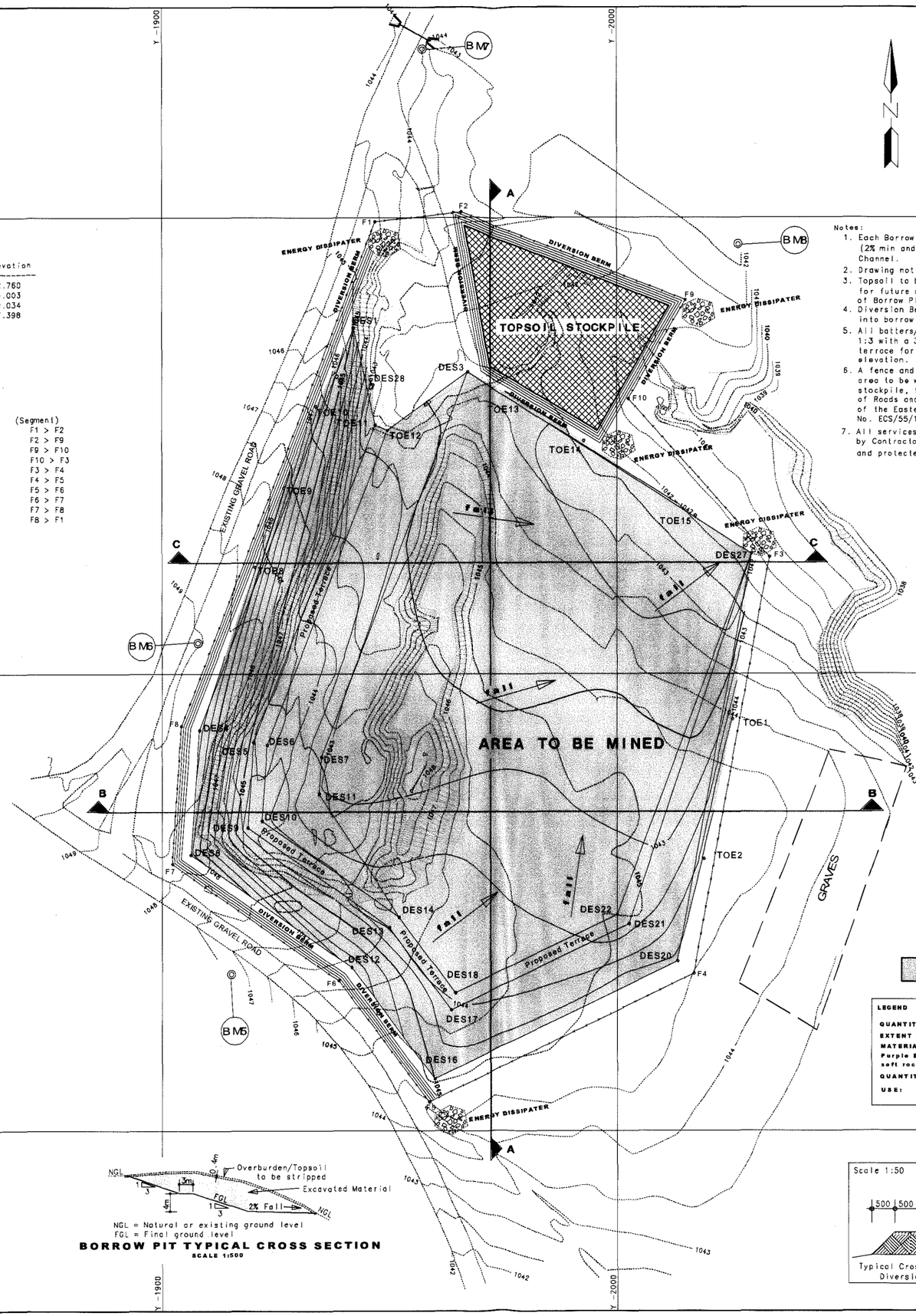
DES6	-1923.049	3515315.554	1044.734
DES7	-1934.890	3515318.165	1043.150
DES8	-1906.348	3515339.580	1048.167
DES9	-1918.788	3515333.645	1044.167
DES10	-1921.898	3515332.161	1044.167
DES11	-1934.334	3515326.220	1043.015
DES12	-1941.442	3515364.175	1046.369
DES13	-1949.886	3515355.439	1043.930
DES14	-1951.997	3515353.255	1043.869
DES16	-1959.853	3515388.631	1044.993
DES17	-1963.515	3515373.544	1044.041
DES18	-1964.431	3515369.772	1043.968
DES20	-2013.285	3515362.874	1044.626
DES21	-2002.582	3515354.712	1043.354
DES22	-1999.906	3515352.671	1043.333
DES27	-2029.640	3515273.658	1041.645
DES28	-1946.190	3515236.651	1042.805
TOE1	-2025.472	3515309.924	1044.066
TOE2	-2019.110	3515340.493	1044.728
TOE8	-1920.280	3515276.559	1048.222
TOE9	-1926.607	3515259.199	1047.677
TOE10	-1933.583	3515241.353	1046.776
TOE11	-1946.738	3515245.458	1042.841
TOE12	-1949.515	3515246.594	1042.841
TOE13	-1980.451	3515240.722	1042.723
TOE14	-1992.675	3515248.926	1042.372
TOE15	-2017.289	3515265.335	1041.929



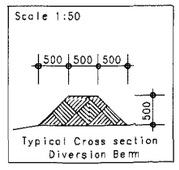
Notes:
1. Each Borrow Pit to be self-draining (2% min and 3% max.) to diversion Channel.
2. Drawing not to be scaled.
3. Topsoil to be stockpiled and watered for future use in rehabilitation of Borrow Pit.
4. Diversion Berm to protect all slopes into borrow pit.
5. All batters/slopes to be maximum of 1:3 with a 3m wide horizontal step/terrace for every 4m vertical drop in elevation.
6. A fence and gate are to secure the area to be worked including topsoil stockpile, for details see Department of Roads and Public Works – Province of the Eastern Cape – Standard Plans No. ECS/55/1/C2 and C5
7. All services to be established/located by Contractor prior to excavation and protected.

Denotes Area to be Mined.

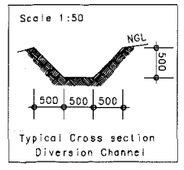
LEGEND
QUANTITY: 18 000m3
EXTENT TO BE MINED: 13 000sqm
MATERIAL:
Purple Brown, highly weathered, soft rock Mudstone
QUANTITY of TOPSOIL: 2 500m3 Stockpile
USE: Road Layerworks

NGL = Natural or existing ground level
FGL = Final ground level

BORROW PIT TYPICAL CROSS SECTION
SCALE 1:500



Typical Cross section Diversion Berm



Typical Cross section Diversion Channel

NOTES:

No.	Amendments	Date

Client:

CHRIS HANI DISTRICT MUNICIPALITY

Designer: TERRECO cc
Surveyed : NORTON SURVEY cc
Enviromental Consultant : TERRECO cc
Project Proponent:

Project Title:
DUBENI STREAM CROSSING CHRIS HANI DM

Title:
BORROW PIT No.1 LAYOUT PLAN AND CONTOURS/DESIGN

Scale: 1 : 500
Project Number:
Drawing Number : CHDM/T/BP1/Q
Rev: 0
Sheet 1 of 2

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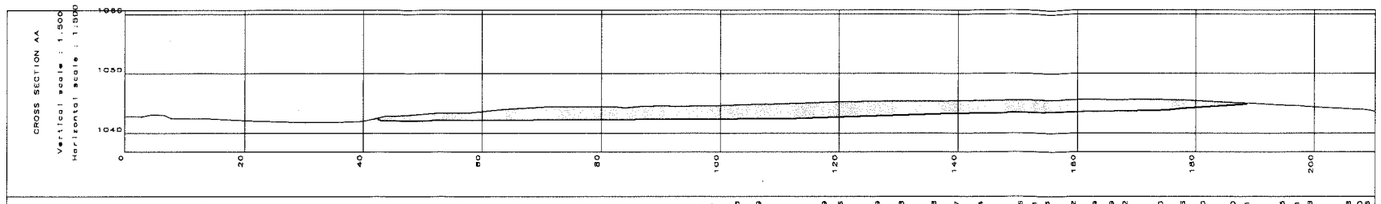
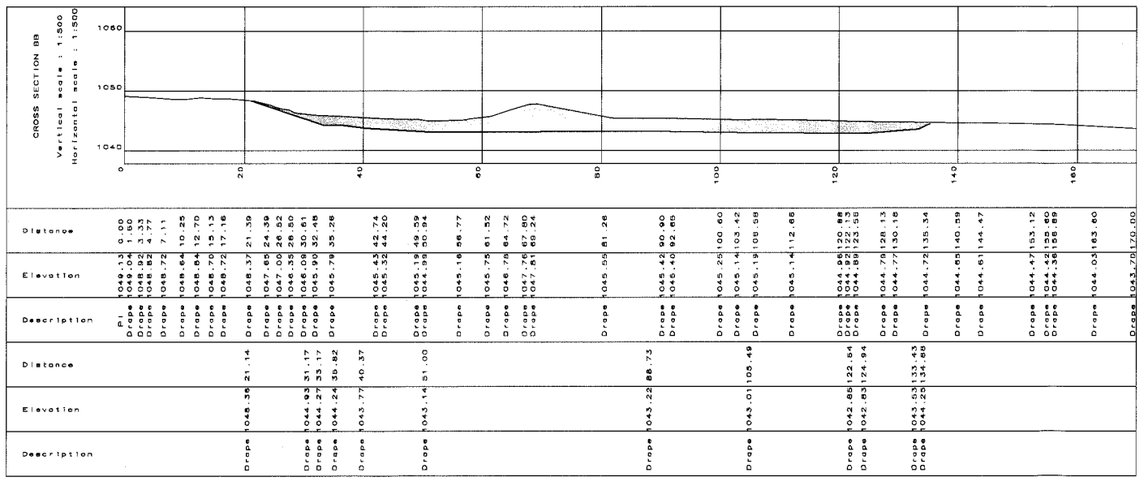


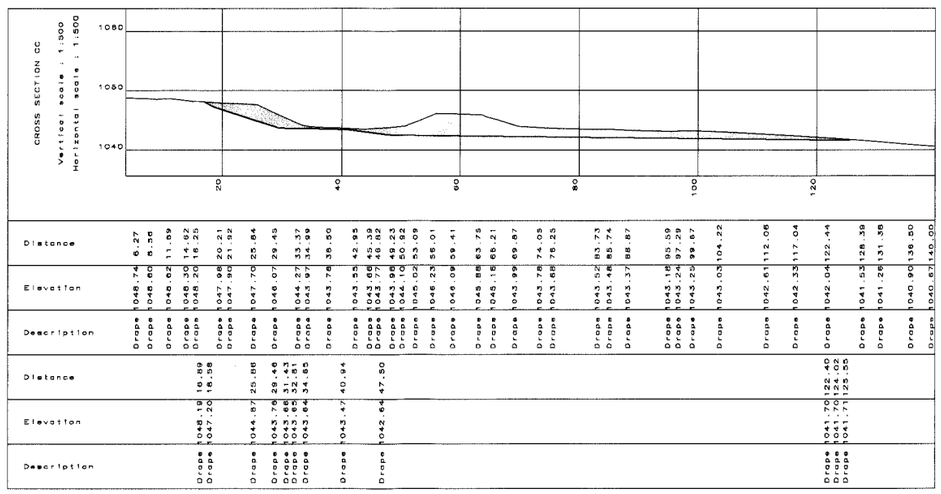
Distance	Elevation	Description
		PI
0.00	1042.77	Drape
2.74	1042.00	Drape
4.46	1042.73	Drape
6.60	1043.02	Drape
7.97	1042.51	Drape
13.40	1042.41	Drape
21.38	1042.12	Drape
30.17	1041.83	Drape
36.71	1041.87	Drape
39.64	1042.05	Drape
41.57	1042.35	Drape
43.78	1042.92	Drape
46.00	1042.97	Drape
52.72	1043.35	Drape
57.09	1043.38	Drape
63.87	1044.04	Drape
66.66	1044.18	Drape
71.14	1044.43	Drape
74.49	1044.44	Drape
77.29	1044.39	Drape
82.45	1044.42	Drape
85.98	1044.28	Drape
86.85	1044.40	Drape
90.79	1044.56	Drape
92.24	1044.54	Drape
97.73	1044.59	Drape
99.14	1044.62	Drape
103.45	1044.74	Drape
107.09	1044.88	Drape
118.19	1045.27	Drape
120.96	1045.32	Drape
127.19	1045.38	Drape
131.18	1045.42	Drape
136.88	1045.43	Drape
140.47	1045.45	Drape
144.44	1045.51	Drape
151.16	1045.58	Drape
153.51	1045.60	Drape
155.85	1045.61	Drape
160.02	1045.64	Drape
163.59	1045.62	Drape
166.49	1045.61	Drape
169.72	1045.63	Drape
174.70	1045.64	Drape
178.46	1045.53	Drape
181.90	1045.42	Drape
187.00	1045.18	Drape
189.31	1045.07	Drape
195.25	1044.89	Drape
197.77	1044.66	Drape
199.88	1044.43	Drape
208.28	1044.11	Drape
208.20	1044.03	Drape
209.46	1043.84	Drape

Distance	Elevation	Description
42.38	1042.36	Drape
111.29	1042.47	Drape
136.50	1043.29	Drape
164.28	1043.69	Drape
171.98	1043.83	Drape
175.31	1043.89	Drape
177.83	1044.14	Drape
188.63	1044.91	Drape



Distance	Elevation	Description
		PI
0.00	1049.13	Drape
1.80	1049.04	Drape
3.33	1048.82	Drape
4.77	1048.72	Drape
7.11	1048.72	Drape
10.25	1048.64	Drape
12.70	1048.64	Drape
15.13	1048.70	Drape
17.16	1048.72	Drape
21.39	1048.37	Drape
24.39	1047.65	Drape
26.82	1047.00	Drape
28.80	1046.35	Drape
30.63	1045.90	Drape
32.48	1045.90	Drape
35.28	1045.79	Drape
42.74	1045.43	Drape
44.26	1045.32	Drape
49.59	1045.19	Drape
50.94	1044.99	Drape
56.77	1045.16	Drape
61.52	1045.75	Drape
64.72	1046.78	Drape
67.80	1047.76	Drape
68.24	1047.81	Drape
81.26	1045.55	Drape
90.90	1045.42	Drape
92.65	1045.40	Drape
100.60	1045.25	Drape
103.42	1045.14	Drape
108.58	1045.19	Drape
112.66	1045.14	Drape
120.88	1044.95	Drape
122.94	1044.88	Drape
123.58	1044.89	Drape
128.13	1044.79	Drape
130.16	1044.77	Drape
135.34	1044.72	Drape
140.59	1044.65	Drape
144.47	1044.61	Drape
153.12	1044.47	Drape
155.00	1044.38	Drape
158.89	1044.36	Drape
163.60	1044.03	Drape
170.00	1043.76	Drape

Distance	Elevation	Description
21.14	1046.36	Drape
31.17	1044.93	Drape
33.17	1044.27	Drape
39.82	1044.24	Drape
40.37	1043.77	Drape
51.00	1043.14	Drape
88.73	1043.22	Drape
105.49	1043.01	Drape
122.94	1042.86	Drape
124.94	1042.83	Drape
133.43	1043.03	Drape
134.88	1044.29	Drape



Distance	Elevation	Description
		PI
6.27	1048.74	Drape
8.55	1048.60	Drape
11.69	1048.62	Drape
14.92	1048.30	Drape
18.25	1048.20	Drape
20.21	1047.98	Drape
21.92	1047.90	Drape
25.64	1047.70	Drape
29.49	1046.07	Drape
33.37	1044.27	Drape
34.99	1043.97	Drape
36.50	1043.76	Drape
42.95	1043.55	Drape
45.39	1043.06	Drape
48.82	1043.77	Drape
49.23	1043.88	Drape
50.42	1044.40	Drape
53.09	1045.02	Drape
58.01	1046.23	Drape
59.41	1046.09	Drape
63.75	1048.88	Drape
66.21	1049.16	Drape
69.87	1049.99	Drape
74.09	1043.78	Drape
76.25	1043.68	Drape
83.73	1043.32	Drape
85.74	1043.48	Drape
88.87	1043.37	Drape
93.59	1043.18	Drape
97.29	1043.24	Drape
99.87	1043.25	Drape
104.22	1043.05	Drape
112.06	1042.61	Drape
117.04	1042.35	Drape
122.44	1042.04	Drape
128.39	1041.53	Drape
131.38	1041.26	Drape
136.50	1040.90	Drape
140.00	1040.67	Drape

Distance	Elevation	Description
10.89	1048.19	Drape
18.58	1047.20	Drape
25.86	1044.87	Drape
29.46	1043.78	Drape
31.43	1043.66	Drape
32.81	1043.65	Drape
34.65	1043.65	Drape
40.94	1043.47	Drape
47.50	1042.64	Drape
122.40	1041.70	Drape
124.00	1041.72	Drape
125.55	1041.71	Drape

Notes:

1. Each Borrow Pit to be self-draining (2% min and 3% max.) to diversion Channel.
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3. Topsoil to be stockpiled and watered for future use in rehabilitation of Borrow Pit.
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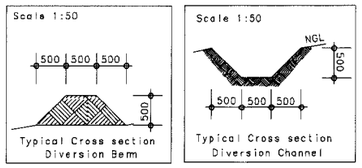

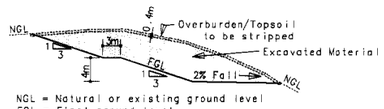

NGL = Natural or existing ground level
FGL = Final ground level

BORROW PIT TYPICAL CROSS SECTION
SCALE 1:500

Denotes Area to be Mined.

NOTES:

No.	Amendments	Date

Client:

CHRIS HANI
DISTRICT MUNICIPALITY

Designer: TERRECO cc

Surveyed : NORTON SURVEY cc

Enviromental Consultant : TERRECO cc

Project Proponent:

Project Title:
DUBENI STREAM CROSSING CHRIS HANI DM

Title:
BORROW PIT No.1 LONG SECTIONS

Scale: 1 : 500

Project Number:

Drawing Number: CHDM/T/BP1/Q

Rev: 0

Sheet 2 of 2

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BENCH MARK CO-ORDINATE LIST
SURVEY BASED ON WGS 84 LO27 (APPROX)- BY GPS

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BASED ON WGS84 LO27 (APPROX) - BY GPS

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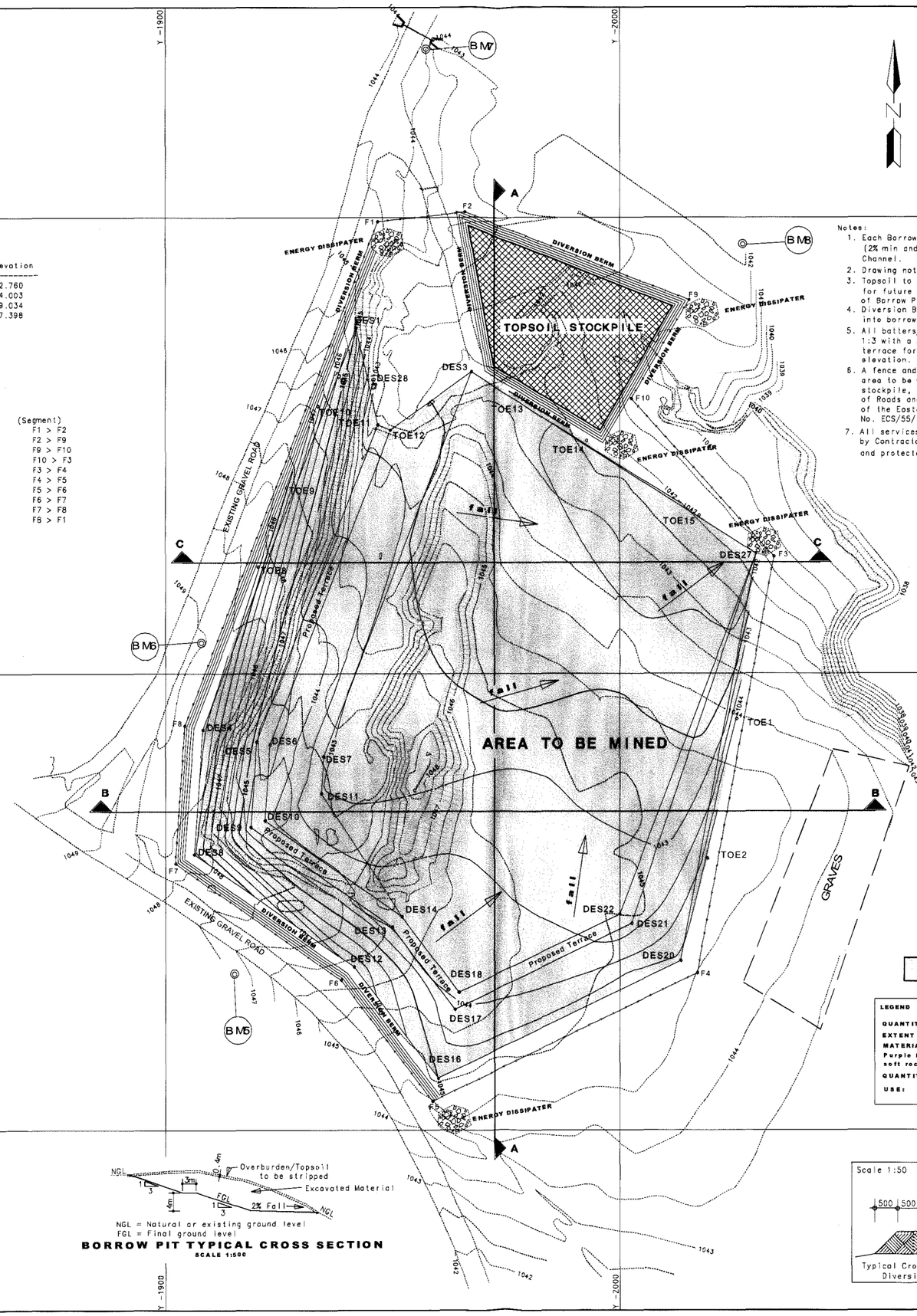
DES7	-1934.890	3515318.185	1043.150
DES8	-1906.348	3515339.580	1048.167
DES9	-1918.788	3515333.645	1044.167
DES10	-1921.898	3515332.161	1044.167
DES11	-1934.334	3515326.220	1043.015
DES12	-1941.442	3515364.175	1046.369
DES13	-1949.886	3515355.439	1043.930
DES14	-1951.997	3515353.255	1043.869
DES16	-1959.853	3515388.631	1044.993
DES17	-1963.515	3515373.544	1044.041
DES18	-1964.431	3515369.772	1043.968
DES20	-2013.286	3515362.874	1044.626
DES21	-2002.582	3515354.712	1043.354
DES22	-1999.906	3515352.671	1043.333
DES27	-2029.640	3515273.658	1041.645
DES28	-1946.190	3515236.651	1042.805
TOE1	-2025.472	3515309.924	1044.066
TOE2	-2019.110	3515340.493	1044.728
TOE8	-1920.280	3515276.559	1048.222
TOE9	-1926.607	3515259.199	1047.677
TOE10	-1933.583	3515241.353	1046.776
TOE11	-1946.738	3515245.458	1042.841
TOE12	-1949.515	3515246.594	1042.841
TOE13	-1980.451	3515240.722	1042.723
TOE14	-1992.675	3515248.926	1042.372
TOE15	-2017.289	3515265.335	1041.929



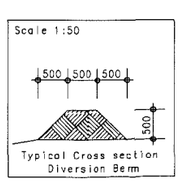
Notes:
1. Each Borrow Pit to be self-draining (2% min and 3% max.) to diversion Channel.
2. Drawing not to be scaled.
3. Topsoil to be stockpiled and watered for future use in rehabilitation of Borrow Pit.
4. Diversion Berm to protect all slopes into borrow pit.
5. All batters/slopes to be maximum of 1:3 with a 3m wide horizontal step/terrace for every 4m vertical drop in elevation.
6. A fence and gate are to secure the area to be worked including topsoil stockpile, for details see Department of Roads and Public Works – Province of the Eastern Cape – Standard Plans No. ECS/55/1/C2 and C5
7. All services to be established/located by Contractor prior to excavation and protected.

Denotes Area to be Mined.

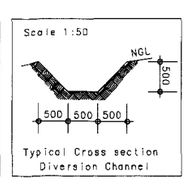
LEGEND
QUANTITY: 18 000m3
EXTENT TO BE MINED: 13 000sqm
MATERIAL:
Purple Brown, highly weathered, soft rock Mudstone
QUANTITY of TOPSOIL: 2 500m3 Stockpile
USE: Road Layerworks

NGL = Natural or existing ground level
FGL = Final ground level

BORROW PIT TYPICAL CROSS SECTION
SCALE 1:500



Typical Cross section Diversion Berm



Typical Cross section Diversion Channel

NOTES:

No.	Amendments	Date

Client:

CHRIS HANI DISTRICT MUNICIPALITY

Designer: TERRECO cc
Surveyed : NORTON SURVEY cc
Enviromental Consultant : TERRECO cc
Project Proponent:

Project Title:
DUBENI STREAM CROSSING CHRIS HANI DM

Title:
BORROW PIT No.1 LAYOUT PLAN AND CONTOURS/DESIGN

Scale: 1 : 500
Project Number:
Drawing Number : CHDM/T/BP1/Q
Rev: 0
Sheet 1 of 2

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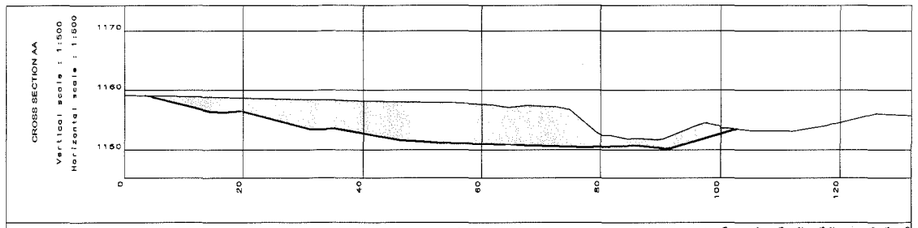
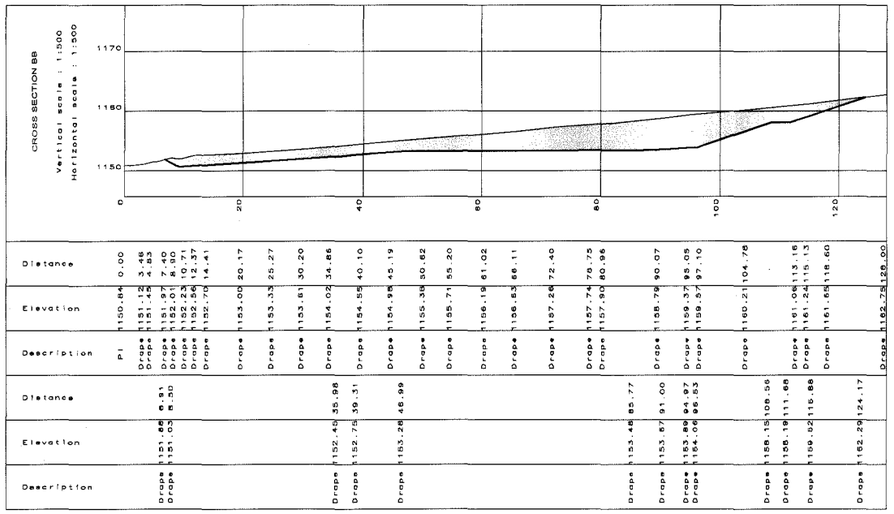


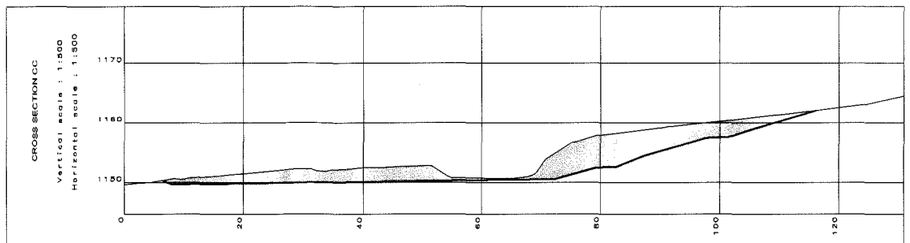
Distance	Elevation	Description
0.00	159.24	PI
2.15	159.19	Drape
6.83	159.08	Drape
14.95	158.88	Drape
22.81	158.65	Drape
32.27	158.43	Drape
40.39	158.29	Drape
41.39	158.17	Drape
48.51	158.04	Drape
54.69	157.92	Drape
56.73	157.82	Drape
61.95	157.54	Drape
63.35	157.43	Drape
67.00	157.46	Drape
71.99	157.24	Drape
74.69	156.81	Drape
79.31	156.88	Drape
81.71	156.40	Drape
84.58	155.81	Drape
86.93	155.91	Drape
89.46	155.76	Drape
96.05	154.19	Drape
97.82	154.08	Drape
99.69	154.12	Drape
101.38	153.68	Drape
108.81	153.24	Drape
107.17	153.24	Drape
110.78	153.21	Drape
114.02	153.03	Drape
117.73	154.11	Drape
119.32	154.45	Drape
120.05	156.11	Drape
128.86	155.98	Drape
132.00	155.78	Drape

Distance	Elevation	Description
3.53	159.20	Drape
14.44	158.48	Drape
16.91	158.36	Drape
19.45	158.51	Drape
31.15	153.52	Drape
32.60	153.42	Drape
35.34	153.56	Drape
46.21	151.69	Drape
49.63	151.55	Drape
52.86	151.20	Drape
63.91	150.93	Drape
65.81	150.82	Drape
77.24	150.57	Drape
85.99	150.75	Drape
90.97	150.31	Drape
103.75	153.90	Drape
105.76	153.87	Drape



Distance	Elevation	Description
0.00	150.84	PI
3.49	151.12	Drape
4.83	151.46	Drape
7.90	152.01	Drape
10.71	152.23	Drape
12.37	152.56	Drape
14.41	152.70	Drape
20.17	153.02	Drape
25.27	153.33	Drape
30.20	153.61	Drape
34.86	154.02	Drape
40.10	154.55	Drape
45.19	154.95	Drape
50.62	155.38	Drape
55.20	155.71	Drape
61.02	156.19	Drape
66.11	156.53	Drape
72.40	157.26	Drape
76.75	157.74	Drape
80.96	157.90	Drape
90.07	158.79	Drape
93.05	159.37	Drape
97.10	159.57	Drape
104.76	160.21	Drape
113.16	161.06	Drape
116.13	161.24	Drape
118.60	161.63	Drape
120.00	162.73	Drape

Distance	Elevation	Description
6.91	151.46	Drape
8.30	151.03	Drape
35.98	152.45	Drape
39.31	152.75	Drape
46.99	153.26	Drape
85.77	153.46	Drape
91.00	153.67	Drape
94.97	153.89	Drape
98.53	154.06	Drape
106.56	158.15	Drape
111.66	158.19	Drape
116.88	159.02	Drape
124.17	162.29	Drape

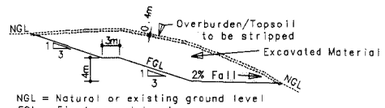


Distance	Elevation	Description
0.00	149.87	PI
1.60	149.78	Drape
4.41	150.00	Drape
6.45	150.48	Drape
8.49	150.60	Drape
10.29	150.60	Drape
16.03	151.12	Drape
17.64	151.25	Drape
20.78	151.58	Drape
26.34	152.12	Drape
28.56	152.23	Drape
30.64	152.30	Drape
32.49	152.38	Drape
33.83	151.98	Drape
37.12	152.29	Drape
40.09	152.51	Drape
43.36	152.55	Drape
48.14	152.65	Drape
51.46	152.83	Drape
54.36	151.08	Drape
60.11	150.81	Drape
63.17	150.71	Drape
67.44	150.92	Drape
68.91	151.36	Drape
70.76	153.93	Drape
73.32	156.79	Drape
77.22	157.58	Drape
79.22	157.88	Drape
84.14	158.44	Drape
88.26	158.98	Drape
89.66	159.16	Drape
91.29	159.40	Drape
93.49	159.83	Drape
101.67	160.49	Drape
109.17	161.33	Drape
114.66	161.87	Drape
117.74	162.26	Drape
124.81	163.16	Drape
130.86	164.50	Drape

Distance	Elevation	Description
8.47	150.35	Drape
7.81	149.73	Drape
40.32	150.17	Drape
51.86	150.35	Drape
64.01	150.50	Drape
72.30	150.66	Drape
78.90	152.43	Drape
80.62	152.46	Drape
82.62	152.71	Drape
87.43	154.36	Drape
97.51	157.50	Drape
101.23	157.64	Drape
104.07	158.65	Drape
118.12	162.06	Drape

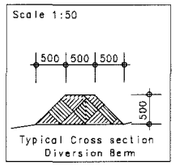
Notes:

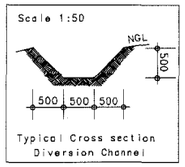
1. Each Borrow Pit to be self-draining (2% min and 3% max.) to diversion Channel.
2. Drawing not to be scaled.
3. Topsoil to be stockpiled and watered for future use in rehabilitation of Borrow Pit.
4. Diversion Berm to protect all slopes into borrow pit.
5. All batters/slopes to be maximum of 1:3 with a 3m wide horizontal step/ terrace for every 4m vertical drop in elevation.
6. A fence and gate are to secure the area to be worked including topsoil stockpile, for details see Department of Roads and Public Works – Province of the Eastern Cape – Standard Plans No. ECS/55/1/C2 and C5
7. All services to be established/located by Contractor prior to excavation and protected.



NGL = Natural or existing ground level
FGL = Final ground level

BORROW PIT TYPICAL CROSS SECTION
SCALE 1:500





Denotes Area to be Mined.

NOTES:

No.	Amendments	Date

Client:

CHRIS HANI
DISTRICT MUNICIPALITY

Designer: TERRECO cc

Surveyed : NORTON SURVEY cc

Enviromental Consultant : TERRECO cc

Project Proponent:

Project Title:
DUBENI STREAM CROSSING CHRIS HANI DM

Title:
BORROW PIT No.2 LONG SECTIONS

Scale: 1 : 500

Project Number:

Drawing Number: **CHDM/T/BP2/Q**

Rev: 0

Sheet 2 of 2

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BORROWPIT 2 - POTENTIAL IMPACT – OPERATION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
2.6 Public Nuisance – Traffic Disruption ***Activities:*** • Transporting of Material to construction sites ***Description:*** The transportation of material to the bridge construction site may result in traffic disruption. One should bear in mind, however, that there will already be disruption to traffic caused by the bridge construction activities and the transportation of material to site is unlikely to add significantly to this.	Creation/disruption of access	**Negative Direct**	**L**	**S**	**S**	**P**	**H**	**L**	**LOW NEGATIVE**	**LOW NEGATIVE**	**6.15**
2.7 Public Nuisance – Dust Generation ***Activities:*** • Extraction of material • Crusher activities • Loading of material • Transportation of material to site ***Description:*** Dust will be generated from excavation and loading of material as well as the exposure of bare soil within the borrowpit. Dust will be generated from the use of trucks to transport material to the construction sites. The nearest houses are a minimum of 900m away from the site. Therefore noise generated on site will not affect those residents.	Emissions to air - particulate	**Negative Direct**	**L**	**M**	**L**	**L**	**M**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.5**
2.8 Public Nuisance – Noise ***Activities:*** • Extraction of material • Loading of material • Crusher activities • Transportation of material to site ***Description:*** Refer to Section 1.9. The nearest houses are a minimum of 900m away from the site. Therefore noise generated on site will not affect those residents.	Noise Disturbance	**Negative Direct**	**M**	**M**	**L**	**D**	**M**	**M**	**HIGH - MEDIUM NEGATIVE**	**MEDIUM – LOW NEGATIVE**	**6.6**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low	MITIGATION REF: Refers to chapter in EMP document.		

BORROWPIT 2 - POTENTIAL IMPACT – CLOSURE PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
3.1 Soil Compaction and Erosion ***Activities:*** • Shaping of the borrowpit • Topsoiling ***Description:*** Refer to Section 1.1	Surface Disturbance	**Negative Direct**	**M**	**M**	**S**	**L**	**H**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.4** **6.7**
3.2 Soil Pollution ***Activities:*** • Operation of machinery ***Description:*** Refer to Section 1.2	Hazardous Waste	**Negative Direct**	**M**	**S**	**S**	**P**	**M**	**H**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.3** **6.4** **6.13** **6.14**
3.3 Air Pollution ***Activities:*** • Shaping of the borrowpit • Topsoiling ***Description:*** Refer to Section 1.3	(Gaseous) Emissions to Air (Particulate – Dust)	**Negative Direct**	**M**	**S**	**S**	**D**	**H**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.5**
3.4 Surface Water Pollution (Dirty Water Runoff and Pollutants) ***Activities:*** • Shaping of the borrowpit • Topsoiling ***Description:*** Refer to Section 1.4	Release to water (diffuse & point)	**Negative Direct**	**L**	**M**	**L**	**P**	**H**	**H**	**MEDIUM – LOW NEGATIVE**	**LOW NEGATIVE**	**6.3** **6.4**
3.5 Spread of invasive alien species ***Activities:*** • Spreading of topsoil • Hydroseeding ***Description;*** Refer to Section 1.6	Surface Disturbance	**Negative Direct**	**M**	**L**	**S**	**L**	**H**	**H**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.8**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low	MITIGATION REF: Refers to chapter in EMP document.		