

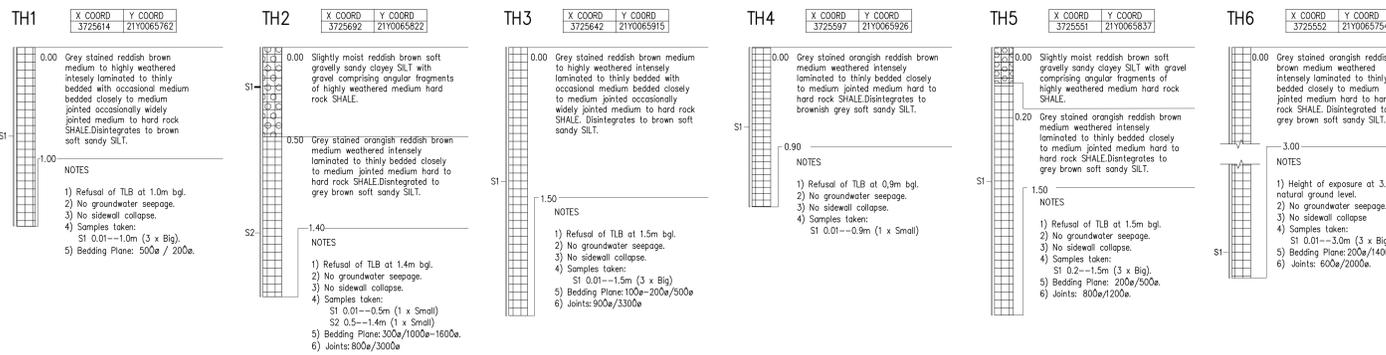
**TABLE OF VOLUME QUANTITIES**

MINING ZONE	QUANTITY (m <sup>3</sup> )	CUMULATIVE QUANTITY (m <sup>3</sup> )	AREA (m <sup>2</sup> )
1	5418	5418	1806
2	9369	14787	3123
<b>TOTAL</b>	<b>14787</b>		<b>4929</b>



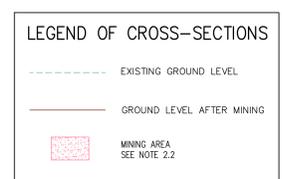
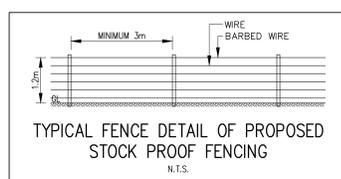
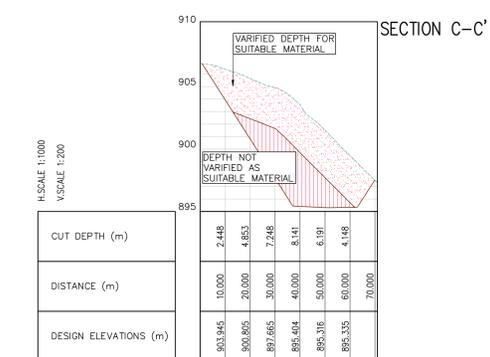
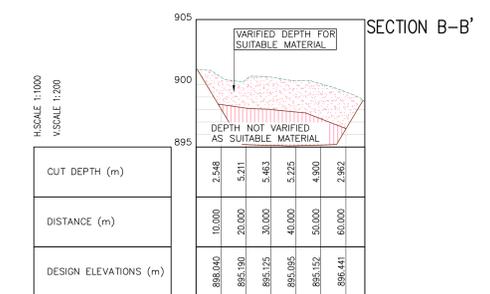
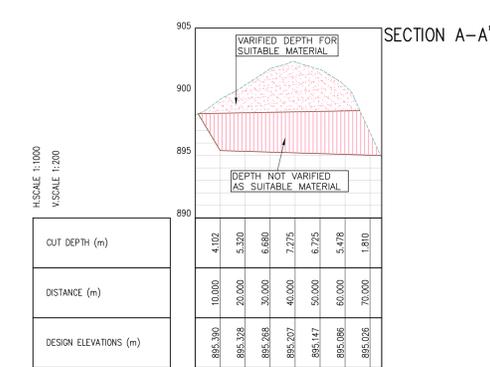
**PLAN OF CONTOURS AFTER MINING**

SCALE: 1:500



**SOIL PROFILES FOR TRIAL HOLES AS SHOWN ABOVE**

SCALE: N.T.S.



**SETTING OUT COORDINATES FOR NEW FENCE LINE WGS 84 Lo 19**

POINT NO.	Y COORDINATE	X COORDINATE
F1	65817.322	3725535.570
F2	65856.620	3725638.441
F3	65808.531	3725674.172
F4	65729.800	3725551.681
F5	65729.292	3725549.235
F6	65743.766	3725496.059
F7	65776.840	3725501.443
F8	65805.178	3725521.669

**CONTROL POINTS**

POINT NO.	Y COORDINATE	X COORDINATE	Z(MSL)
BP24	65796.280	3725485.540	894.29
BP24A	65742.410	3725563.370	896.27
BP24B	65917.770	3725561.120	904.29



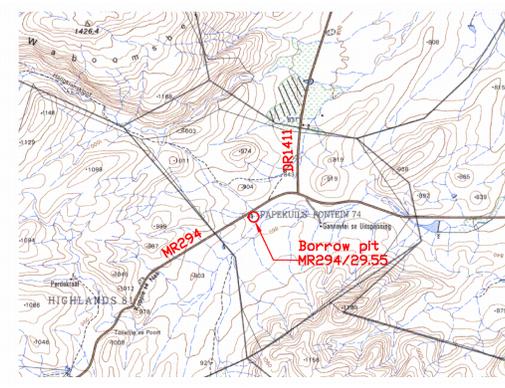
**NORTH-WESTERLY DIRECTION OF EXISTING PIT**

**NB: THIS MINING PLAN HAS BEEN DEVELOPED FROM THE MINIMAL BORROW PIT INVESTIGATION AND SAMPLE TEST RESULT INFORMATION OF THIS LOCATION PRESENTED IN THE GMS WEB SITE <http://www.wcpe.gov.za>**

- NOTES:**
- PREPARATION/ OPERATION**
    - FENCING**
      - Secure perimeter of mining area with stock-proof fencing as indicated on plan (refer to typical detail).
      - Secure existing gateway (indicated on plan) with sublock lock.
    - DEMARCATON OF MINING AREA**
      - Demarcate boundaries of mining area, with stone beacons on corners as indicated on plan
    - SIGNAGE**
      - Erect signage (as per SANS1041) at locations indicated on plan.
      - No unauthorised access signs at BP gates.
      - Heavy vehicle crossing at intersection of access tracks and MR00294.
      - Caution signs and 40km/hr signs at regulation distance from heavy vehicle crossing signs.
    - DRAINAGE WORKS**
      - Construct drainage channels as indicated on plan.
      - Armour all drainage outlets using rock packing where they exit the sites.
    - ACCESS/TRAFFIC SAFETY**
      - Access site from MR00294 only using installed gateways as indicated on plan.
    - CLEARANCE/ TOPSOIL**
      - Clear alien vegetation by hand (in accordance with operator instruction sheet #6).
      - Topsoil stock piles to be located in areas indicated on the plan and managed as per operator instruction.
      - Nominal topsoil thicknesses 0.15m.
    - ABLATION/ WASTE FACILITIES**
      - Locate portable toilets adjacent to the site entrance indicated on the plan and screen with shade cloth.
      - Waste drums/bins to be provided at the site entrance and all waste shall be removed off site weekly.
    - STOCKPILING**
      - Stockpiles to be located at points indicated on plan, and as per 2.3 following.
      - Stockpiles to be managed as per operator instruction sheet #5.
  - SPECIAL PRECAUTIONS**
    - DUST/NOISE MANAGEMENT**
      - No special dust management measures required.
      - Dust to be managed as per operator instruction sheet #16.
      - Water tanker to be made available for management of dust.
      - No over-watering of the mining area or road surfaces should occur.
      - No special noise management measures required.
    - PROTECTION OF FLORA AND FAUNA**
      - Indigenous vegetation within the site boundary is to be preserved and not damaged as far as is practical.
      - No domestic animals permitted on site.
      - Fauna disturbed by the mining process on the site are to be carefully and safely removed from site to an equivalent environment.
      - No animals to be harmed during the course of mining.
    - ARCHAEOLOGICAL/PALAEONTOLOGICAL REMAINS**
      - Should any artefacts be discovered during the course of mining, work is to be stopped, the area cordoned off until the necessary remedial steps have been implemented and authorisation has been obtained to resume activities (refer to operator instruction sheet #17).
    - FIRE MANAGEMENT**
      - No special fire management measures required.
      - Manage fire as per operator instruction sheet #20.
    - SERVICES**
      - There are no services to be relocated at this site.
  - MINING OF MATERIAL**
    - MATERIAL TO BE MINED**
      - Material to be mined is gravel road wearing course, which occurs at this site in a layer about 3.0 m thick. It lies beneath a layer of "topsoil" that is about 0.15 m thick.
      - The material to be mined is silty sand and sandy silty clay derived from highly to medium weathered rock and sandstone of the Adolphus Formation of the Bokveld Group that is overlain by a layer of residual soil between 0.2m and 0.5m thick. It is recommended that the upper and lower horizons be blended to raise the shrinkage product of the lower gravel layer.
      - The entire profile is to be mined simultaneously in order to blend the upper and lower layers of material.
    - EXTRACTION PLAN**
      - The material is to be mined utilizing a dozer with a ripper (if necessary to excavate to full depth), and either a front end loader or a tracked excavator, to load loose or loosened material.
      - Mining should take place in a series of blocks as approximately indicated by the block numbers C-C'.
      - The area of each block should be determined by the volume of material required at that time.
      - Initially, mining should take place in a series of blocks as approximately indicated by the block numbers C-C'.
      - The appropriate volume of wearing course gravel in each block is given in the table opposite.
      - Temporary batter benches are to be erected as required as mining proceeds to indicate the sideways and downward limit of mining.
      - Each mined block (1 to 2) should be bound by a temporary vertical slope along its edge with unmined ground, and a slope of 1:20 along its edge with ground not to be mined.
    - STOCKPILING PLAN**
      - Topsoil should only be cleared when the underlying material is required for re-gravelling roads.
      - Topsoil should be stockpiled only in the indicated areas - even if the topsoil is only partially cleared.
  - REHABILITATION**
    - GENERAL SITE CLEAN UP**
      - Infrastructure, equipment, plant, fencing, temporary services, foreign materials, rubble and waste to be removed from site.
      - Internal access to be rehabilitated by breaking the surface crust and scarifying the area to a depth of 250 mm and covered with stockpiled topsoil.
    - LANDSCAPING**
      - All slopes shall be cut to the final design profile as per operator instruction sheet #8.
      - All surplus material in and around the excavations, including stockpiled gravel, oversized rocks left in the excavations and surplus excavated material to be used as fill.
      - Slopes to be smoothed over and large boulders removed to be used as fill.
      - Floor of the borrow pit to be made good, levelled off, and rendered free-draining.
    - TOPSOIL**
      - The topsoil stockpiled prior to mining to be used as topsoil during the rehabilitation phase.
    - REVEGETATION**
      - Focus on the slopes rather than the level areas.
      - Remove grey alien vegetation by hand or mechanical means and set aside for use as brush packing.
      - Spread 75 mm layer topsoil on slopes and level off.
      - Show stabilise slopes using natural seed-free, dried fibres of hay, chaff or tall grass clippings (from surrounding environment) of various lengths between 50 mm and 400 mm, applied evenly by hand at a rate of 1 bale per 20 m over the area.
      - Mix straw into the upper 100 mm layer of soil, by hand.
    - PERMANENT DRAINAGE WORKS/EROSION PROTECTION**
      - Runnels, erosion channels or wash ways developing after rehabilitation to be backfilled and consolidated and the areas restored to a proper stable condition.
      - Brush packing can be used in erosion runnels or at drainage outlets.
    - PLANTING**
      - No planting to be undertaken as the site will be left to revegetate naturally.
      - Monitoring for growth and if necessary planting to be undertaken should natural vegetation not begin to establish after 30 days (specialist guidance to be sought to determine the exact requirements.)
  - ADDITIONAL MEASURES**
    - TRAFFIC ON REVEGETATED AREAS**
      - No construction equipment, vehicles or unauthorised personnel shall be allowed onto areas that have been finished off.
      - Only persons or equipment required for the preparation of, application of fertiliser and spreading of top material shall be allowed to operate on these areas.
    - SITE SAFETY**
      - Perimeter, stock proof fencing shall be erected/ reinstated adjacent to farm land and alongside the road.
      - Access gate to remain locked and a key provided to the farmer for future use.

**CONTACT NUMBERS**  
 Cape Winelands District Municipality - 023 348 2351  
 C Callz (CC) - 023 348 2351 / 023 348 2352  
 Disaster management - 107/021 888 5159  
 Fire - 107/112  
 Ambulance - 10317  
 Police Flying Squad - 10111

**Owner:** Barend Bortholomew van der Merwe  
**District:** Langeberg  
**Farm Name:** Montagu Farm  
**Farm No.:** 74 (Papekulls Fontein)  
**Contact:** (082) 578 5147



**LOCALITY PLAN**

SCALE: N.T.S.

No.	DATE	ADDITIONS AND AMENDMENTS	CONS. ENG.	PRE	DESIGNED BY:	Z.D.
					G.T.	
					Z.D.	
					G.R.	

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**WESTERN CAPE : PROVINCIAL ADMINISTRATION**  
 DEPARTMENT OF TRANSPORT & PUBLIC WORKS  
 ROADS INFRASTRUCTURE BRANCH

THIS APPROVAL IS FOR PROCEDURAL AND ADMINISTRATIVE REVIEW PURPOSES ONLY AND DOES NOT ATTRACT LEGAL LIABILITY OF ANY KIND FROM WHATEVER CAUSE OR HOWEVER ARISING

PROVINCIAL ROADS ENGINEER  
 DATE: \_\_\_\_\_

**ROADS MATERIALS SUPPLY STRATEGY**  
 CONTRACT NUMBER C937

**BORROW PIT DEVELOPMENT PLAN**  
 MR00294/29.55/R/50/A/R74

P.R.E.'s FILE No.	SCALE
13/5/1/2/1-937	AS SHOWN
CONTRACT No.	WCPS STRUCTURES PLAN No.
C 937	
CONSULTANT'S PLAN No.	WCPS INDEX No.
C657-CW-1020	