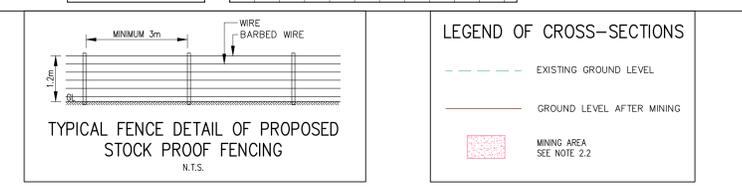
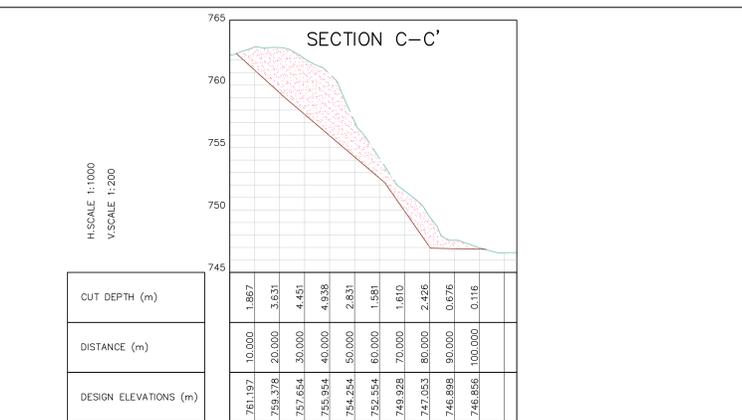
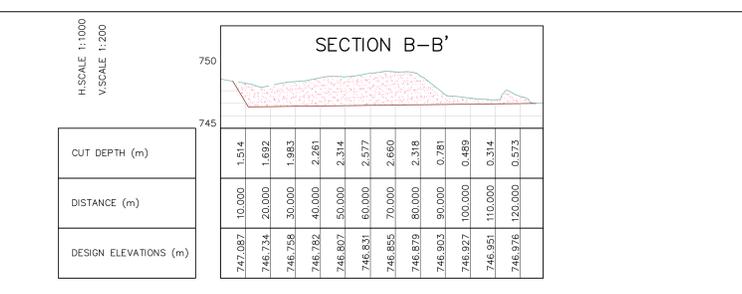
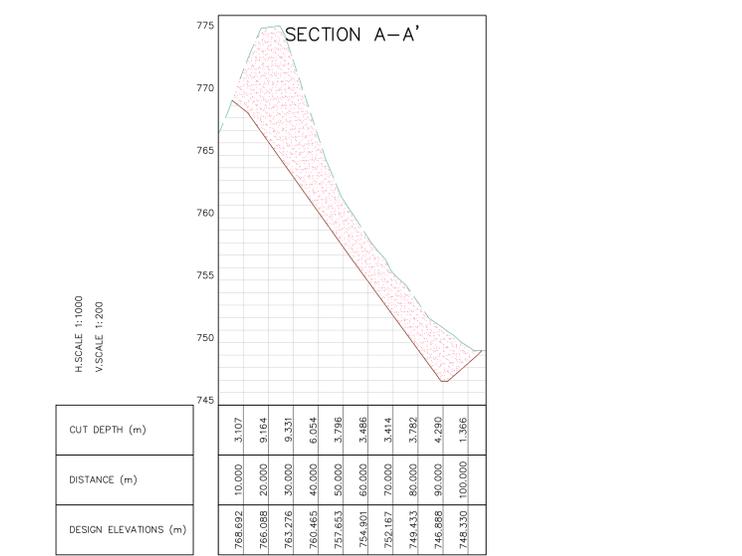
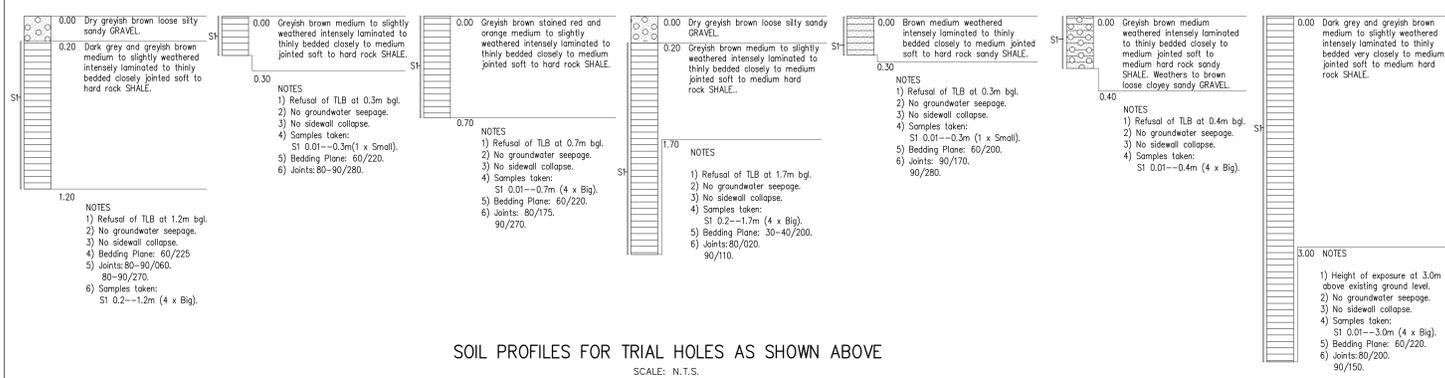


TABLE OF VOLUME QUANTITIES

Mining Zone	Quantity (m³)	Cumulative Quantity (m³)	Area (m²)
1	3156	3156	2104
2	3894	7050	2596
3	4881	11931	3254
4	3879	15810	2586
TOTAL	15810	10540	

PLAN OF CONTOURS AFTER MINING
SCALE: 1:500

TH1	TH2	TH3	TH4	TH5	TH6	TH7
X COORD: 33 40 15.2 Y COORD: 20 26 54.3	X COORD: 33 40 17.2 Y COORD: 20 26 51.1	X COORD: 33 40 18.8 Y COORD: 20 26 52.5	X COORD: 33 40 19.7 Y COORD: 20 26 56.3	X COORD: 33 40 19.7 Y COORD: 20 26 58.3	X COORD: 33 40 18.0 Y COORD: 20 26 58.3	X COORD: 33 40 17.2 Y COORD: 20 26 56.1



SETTING OUT COORDINATES FOR NEW FENCE LINE WGS 84 Lo 21

POINT NO.	Y COORDINATE	X COORDINATE
F1	51052.986	3727316.993
F2	51197.918	3727280.361
F3	51228.207	3727354.088
F4	51196.193	3727414.662
F5	51105.570	3727423.826
F6	51077.489	3727370.750

CONTROL POINTS

POINT NO.	Y COORDINATE	X COORDINATE	Z(MSL)
SB1	51040.530	3727300.320	746.10
SB2	51026.990	3727308.970	746.59
SB3	51163.100	3727276.910	745.21



- 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.oxs.wcape.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 suitable lock.
 - DEMARICATION OF MINING AREA
 - Demarcate boundaries of mining area, with stone beacons on corners as indicated on plan
 - SIGNAGE
 - Erect signage (as per SARTSM) at locations indicated on plan.
 - No unauthorised access signs at BP gates
 - Heavy vehicle crossing at intersection of MR00294 and OP06102
 - 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 OP06102 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 sheet #5
 - Nominal topsoil thickness 0.15m.
 - ADDITIONAL 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 of 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 practicable.
 - 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 if mixed with a suitable binder is a gravel road wearing course, which occurs at this site in a layer about 1.5m thick.
 - It lies beneath a layer of "topsoil" that is about 0.15m thick.
 - The material to be mined is brown silty sandy gravel derived from medium to slightly weathered brown stained orange and red shale of the Klopkop Formation which is of Devonian age.
 - 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 with either a front end loader or a tracked excavator, to load loose or loosened material.
 - Mining should take place in phases, as per mining plan.
 - The dred extent of each phase 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 blocks numbered C-8
 - The approximate volume of wearing course gravel in each block is given in the table opposite.
 - Temporary batter benches are to be erected or required on mining proceeds to indicate the sideways and downward limit of mining
 - Each mined block (1 to 4) should be bound by a temporary vertical slope along its edge with unmined ground, and a slope of 1:3m rising 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.
 - All surplus material in and around the excavation, 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 any 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 m² 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
 - Permanence, 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.

