

▶ **FILE #:** 4-B-09-UR **AGENDA ITEM #:** 43
 POSTPONEMENT(S): 4/9/2009-6/11/2009 **AGENDA DATE:** 7/9/2009
 ▶ **APPLICANT:** VULCAN LANDS, INC.
 OWNER(S): VULCAN MATERIALS CO.

TAX ID NUMBER: 129 080 & 08001
 JURISDICTION: County Commission District 6
 ▶ **LOCATION:** West side of Graybeal Rd., south of Buttermilk Rd.
 ▶ **APPX. SIZE OF TRACT:** 161.6 acres
 SECTOR PLAN: Northwest County
 GROWTH POLICY PLAN: Rural Area
 ACCESSIBILITY: Access is via Everette Rd., Access is via Everett Road, a minor collector street with a pavement width of 24' south of the site and 20'-22' north of the site.
 UTILITIES: Water Source: West Knox Utility District
 Sewer Source: NA
 WATERSHED: Hickory Creek

▶ **ZONING:** A (Agricultural)
 ▶ **EXISTING LAND USE:** Existing quarry and open land
 ▶ **PROPOSED USE:** Mining and mineral extraction, quarry expansion

HISTORY OF ZONING: The existing quarry was originally approved by MPC January 1973 (73-A-1). An expansion of the facility was approved by MPC in November of 1996 (11-H-96-UR)
 SURROUNDING LAND USE AND ZONING: North: Dwellings / A agricultural
 South: Commercial and dwellings / CB commercial and A agricultural
 East: Vacant land / PR residential
 West: Dwellings & vacant land / PC & CA commercial
 NEIGHBORHOOD CONTEXT: Property in the area is zoned I industrial, PC and CB Commercial, A Agricultural and RA Residential. Development in the area consists of highway oriented commercial uses in the vicinity of Interstates 40/75. Detached residences are located throughout the remainder of the area.

STAFF RECOMMENDATION:

- ▶ **APPROVE the request to expand the existing rock quarry as shown on their development plan subject to 11 conditions**
1. Meeting all applicable requirements of the Knox County Health Dept.
 2. Meeting all applicable requirements of the Knox County Dept. of Engineering and Public Works
 3. Meeting all applicable requirements of the Knox County Dept. of Air Pollution Control
 4. Obtaining all necessary State and Federal permits before commencing any expansion of the rock quarry

5. Obtaining approval of this request by the Knox County Commission as required by the Knox County Zoning Ordinance
6. The crushing plant, stockpiles, access, offices, asphalt plants and scales remaining in their present locations
7. Berms shown on the development plan are to be constructed 100' from the property line as required by the Knox County Zoning Ordinance unless otherwise permitted to be closer to the boundary (4.50.02B.2.&3.). Construction of the berm is to be completed prior to commencing quarrying the expanded site. Landscaping of the berms is to be in accordance with the attached drawings. Staff recommends that hardier hardwood trees be substituted for the Bradford pears shown on the plan. Landscaping is to be completed within six months of the construction of the berm. The construction of the berm is to be limited to the hours between 7:00AM and 6:00 PM
8. The applicant is to provide the landscaping as approved as part of 11-H-96-UR on the existing berms along Buttermilk Rd. within six months of the approval of this request
9. All blasting associated with the quarrying operation shall be permitted between 9:00AM and 4:00 PM, Monday through Friday only
10. All other quarry operations within the portion of the site that is zoned A (Agricultural) must be limited to the hours of 7:00AM and 9:00 PM, Monday through Saturday
11. The land to the east of Graybeal Rd. that is owned by Vulcan is not to be used in any way associated with the quarrying operation unless a separate use on review has been approved permitting such use.

With the conditions noted, this plan meets the requirements for approval in the A (Agricultural) zone and meets the other criteria for approval of a use on review.

COMMENTS:

Since this matter appeared on MPC's agenda in April, the applicant has amended the request that the expanded quarrying operation be limited to the area west of Gray Beal Rd. They have submitted a revised plan that reflects that change. The plan as submitted meets all requirements of the standards as contained in the Knox County Zoning Ordinance dealing with surface mining with an exception. The proposed beam which will be constructed from overburden removed from the quarry site is required to be setback 100' from the property line. The staff will recommend that the beam be constructed as required by the ordinance. In addition, staff will require that Vulcan limit the hours of various aspects of the operation in order to lessen the impact of this use on the surrounding area. Additionally, the applicant has noted in the recommendation that the proposed operation must comply with the performance standards contained in section 4.10 of the Zoning ordinance. These performance standards address noise and vibration among other things.

Staff is aware that a neighborhood group and the applicant are working together to come to an agreement on some issues that will make the use more palatable to the area residents. Some of the items that are being sought include blast surveys, seismic monitoring, off site landscaping and sound monitoring. It is hoped that an agreement will be reached before the MPC meeting on June 11, 2009.

The proposed use is a basic industry that is needed in the community. There may be no locations in Knox County that the proposed use could be located and not have an impact on the surrounding area. Staff believes with the installation of the berms and the limitation of the noise and the hours of operation this use can be permitted to expand with little additional impact in the community. The Northwest Sector plan proposes this site for industrial use. The quarrying operation would be considered to be a use that would be compatible with the sector plan designation.

In addition to MPC action on this matter, the request will also have to be approved by the Knox County Commission. The matter will be scheduled for the County commission's July 27, 2009 meeting. Anyone who is aggrieved by MPC's action on this matter has the right to appeal to the Knox County Board of Zoning Appeals.

ESTIMATED TRAFFIC IMPACT: Not calculated.

ESTIMATED STUDENT YIELD: Not applicable.

MPC's approval or denial of this request is final, unless the action is appealed to the Knox County Board of Zoning Appeals. The date of the Knox County Board of Zoning Appeals hearing will depend on when the appeal application is filed. Appellants have 30 days to appeal an MPC decision in the County.

Based on discussions between representatives of the Buttermilk, Graybeal, Everett, Pittman, and Yarnell Communities (“Community”) and representatives of Vulcan Lands, Inc. (“Vulcan”), they have agreed to the following additional conditions as amendments to the Amended Use on Review Application (4-B-09-UR) related to the 105 acres of property Vulcan owns that lies southwest of Graybeal Road and which adjoins the currently permitted area for its quarry operation, that area referred to herein as the New Area (“New Area”) which additional conditions have been noted in text form on the attached exhibits marked as Exhibit 1 Supplemental and Exhibit 2 Supplemental. In the event of any conflict or inconsistency in the following and the Amended Use on Review Application, the following will govern:

1. Vulcan will construct berms as noted on Exhibit 1 Supplemental in the New Area along Buttermilk Road and Graybeal Road. The berms will be constructed in accordance with Knox County Zoning Regulations as recommended by the staff of the MPC. The toe of the berm will be no less than 100 feet from the rights of way of Buttermilk Road and Graybeal Road. Because of the Hickory Creek flood plain, the berm will terminate as shown on Exhibit 1 Supplemental. At this point, the end of the berm will be no less than 500 feet from the common property corner between Vulcan and its adjacent property owner, which is more than the 200-foot distance requested by the Community.

2. Vulcan shall construct the berms in stages, as depicted on Exhibit 1 Supplemental. The berms designated as “Initial Berms” shall be constructed to a height of not less than 20 feet and an approximate width of 150 feet within nine months (pending normal construction delays, such as inclement weather) of the granting of the Use on Review Application. Within three months after building the first phase of the Initial Berms they shall be planted with indigenous biodiverse trees and plants (no monocultures) on the outer slope. Over time, Vulcan will raise the height of the Initial Berms as needed to handle the overburden created from the quarrying operations. The “Secondary Berms” as designated on Exhibit 1 Supplemental lie along Graybeal Road across from property owned or controlled by Vulcan. The Secondary Berms shall be constructed in a first phase to a height of not less than 20 feet and an approximate width of 150 feet before Vulcan mines rock within the New Area. When the first stage of construction of the Secondary Berms is completed, Vulcan will landscape the outer slope of the berms within six months with indigenous biodiverse trees and plants (no monocultures). As with the Initial Berms, the Secondary Berms may be raised in elevation over time as the need to dispose of overburden arises. However, the outside toe of the berm shall remain at least 100 feet from the rights-of-way. During construction of the Initial and Secondary berms, Vulcan will allow natural vegetation to grow within the 100-foot offset from Buttermilk and Graybeal roads.

3. Vulcan, as it has in the past will be governed and will operate its quarry operation in accordance with the Tennessee Blasting Standards Act, T.C.A. 68-105-102 (the “Act”). Continuous monitoring has been conducted and will continue to be conducted by a third party independent firm at the structure uncontrolled by Vulcan that is nearest to the blasting activity. Vulcan shall increase its monitoring of seismic activity and air blast response at four additional off-site locations that initially will be sited generally to the west, east, south and north of its quarry operation at the locations noted on Exhibit 2 Supplemental. Because the impact of blasting activity on off-site areas can be influenced by subsurface geological conditions, the sites of these four additional monitoring locations may be moved by Vulcan, within the Community, from time to time in order to collect data about the blasting activity for Vulcan to better manage

its blasting activities. All collected monitoring data will be made available to the Community on a calendar, quarterly basis, upon request by those in the Community.

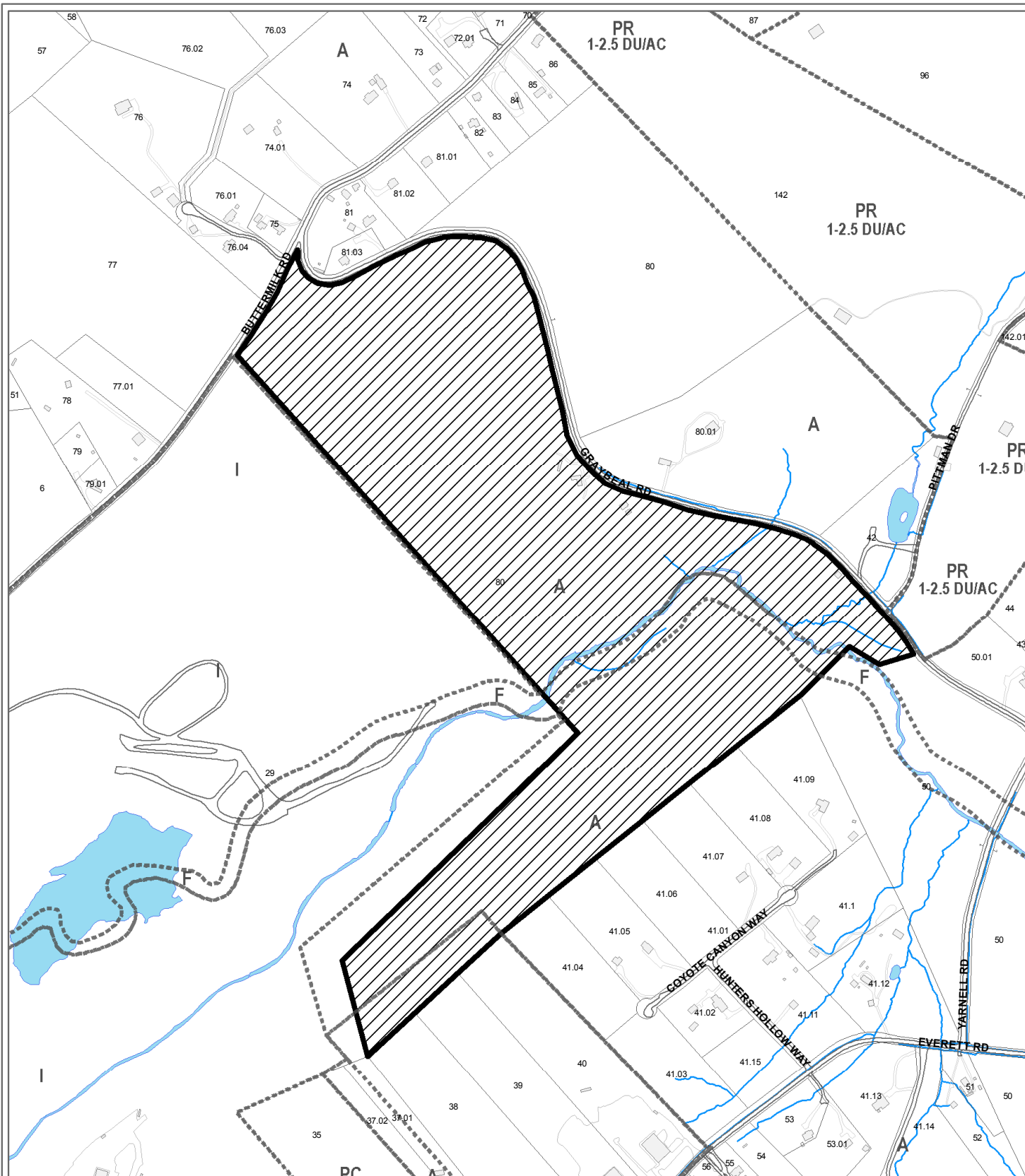
4. Vulcan's blasting activity will be governed by and will meet the standards set forth in the Act. Based on the results of blasting between 2005 through April 2009, the seismographic readings have been well within the standards set forth in the Act, and Vulcan will endeavor to operate its blasting activities going forward at less than 1.0 inch per second, which is half of the standard allowed by the Act.

5. Vulcan will offer to conduct standard pre-blast surveys of structures along Buttermilk Road that are within 1,000 feet of the northern most property line of the New Area that is adjacent to Buttermilk Road and Graybeal Road. The parcels with structures that Vulcan will offer the owners to survey are: **[list Parcel Nos. Tom, I'll have to get these next week]**. Vulcan will conduct a community meeting before the surveys are done for those within this area who are willing to authorize such surveys. Presentations will be made on pre-blast survey procedures, and on the procedures and type of blasting and mining Vulcan does at the Dixie Lee Quarry. Vulcan will only survey those identified property owners indicating a willingness to engage in the program.

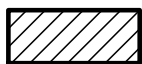
6. Vulcan will conduct its operations in accordance with Knox County Department of Air Quality Management Regulations which are incorporated into Knox County Zoning Ordinances by way of § 4.10, which are protective to its employees and adjoining neighbors.

7. Vulcan will conduct its operations in accordance with the noise requirements of Knox County as required by the Knox County Zoning Ordinance which contains specific requirements at § 4.10.1. Vulcan will also investigate and implement use of alternative safety devices in place of the backup sounding buzzers on their earth moving and excavation equipment. An alternative will be selected that will reduce the noise compared to the buzzers.

8. On a case by case basis, Vulcan will install landscaping that with maturity will serve as shields or blinds on adjacent properties in the Community for up to four (4) residences in consultation with the landowners. The residential properties on which such landscaping blinds will be installed will be selected by the Community's representatives Kirkpatrick, Williams and Bryant and will only be installed with the agreement of the landowners.



**4-B-09-UR
USE ON REVIEW**



Mining and mineral extraction, quarry expansion in A (Agricultural)

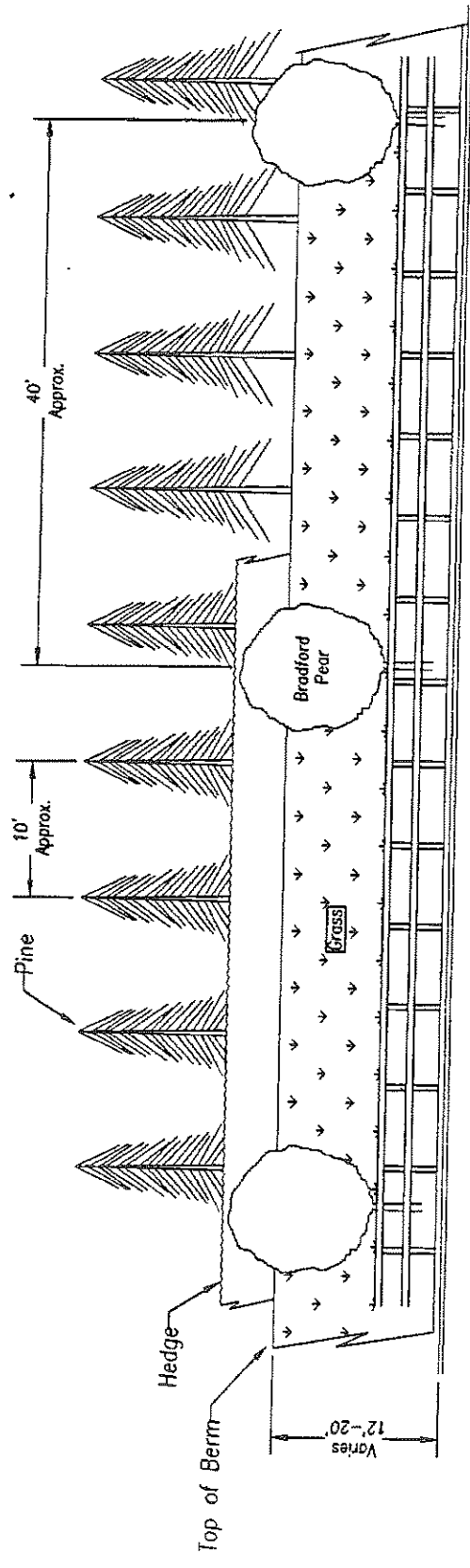
Original Print Date: 3/30/2009
 Metropolitan Planning Commission * City / County Building * Knoxville, TN 37902

Revised: 6/4/2009

Petitioner: Vulcan Lands, Inc.

Map No: 129
 Jurisdiction: County
 0 500
 Feet





Proposed Berm - Elevation
 (As Shown in Attachment #4)

4-B-09-4R

Pine Trees
@ 10' Centers

Bradford Pears
@ 40' Centers

Hedge

Fence
12-20' Varies

Grass Slope
1
2

Variable Slope

Existing Grade

Buttermilk Road

Typical Berm Section

4-B-09-4R

4-B-09-UP

**BUTTERMILK, GARYBEAL, EVERETT, AND
YARNELL COMMUNITY**

Representatives: Dr. Thomas Kirkpatrick
Mrs. Rhonda Williams
Mr. Larry Bryantt

**POINTS OF CONSIDERATION
ON
AMENDED USE ON REVIEW
FOR
DIXIE LEE QUARRY**

**Prepared For:
Dan Kelly
MPC**

**Prepared By:
Dr. Thomas Kirkpatrick
Mrs. Rhonda Williams
Mr. Larry Bryantt**

**Rev. 0
June 1, 2009**

The information presented in the following Letter is intended to serve as an outline of the concerns and proposed points of the Buttermilk, Graybeal, Everett, and Yarnell Community, referred to as Community herein, to the MPC on the Amended Use on Review for Dixie Lee Quarry presented by Vulcan Lands, Inc. to Knoxville-Knox County Metropolitan Planning Commission. It is requested that the information contained herein be considered during the review of the Amended Use on Review presented by Vulcan Lands, Inc.

BUTTERMILK, GARYBEAL, EVERETT, AND YARNELL COMMUNITY

Representatives: Dr. Thomas Kirkpatrick
Mrs. Rhonda Williams
Mr. Larry Bryantt

Concerns of the Community

The area surrounding the Dixie Lee Quarry, inclusive of the Community, have had the pleasure of having Vulcan Lands, Inc. as a neighbor since 1960's. During this time, Vulcan has worked with its neighbors on limiting the impact of the quarry operations on the surrounding areas through limiting operating hours, curtailed blasting loads, the building of berms, landscaping etc.

With the planned expansion into the additional 105 acres of which Vulcan Lands Inc. own on the southwest side of Graybeal Road and Adjacent to its current quarry permit area (See Figure 1), there are concerns of the Community of the impact on their neighborhoods and homes. The basis of these concerns are that the 105 acres that are the focus has served as a buffer between

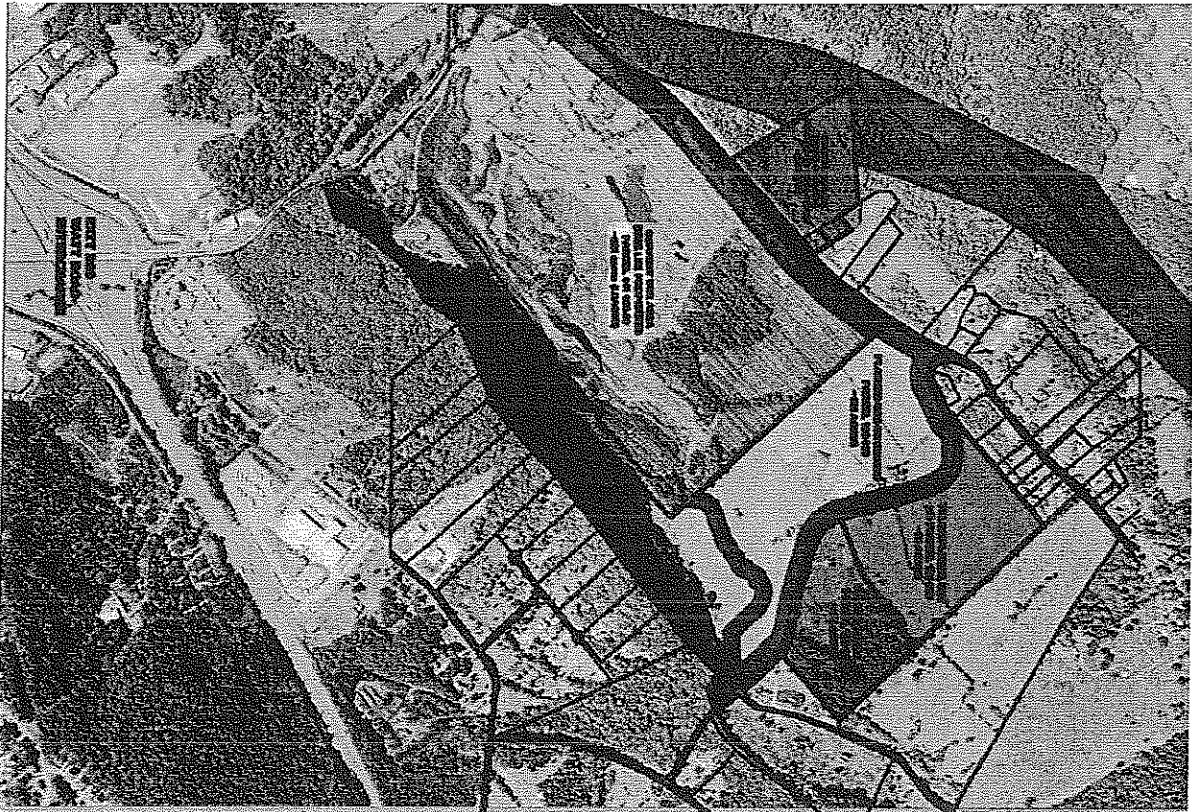


Figure 1

the current quarry operations and the Community. Even with this buffer in place, the community has experienced significant blast induced vibrations on their homes and property, dust emission migration onto their property from the quarry, acoustic disturbances emanating from the quarry operations, and unsightly view of the quarry pit. Though these have been a nuisance and

BUTTERMILK, GARYBEAL, EVERETT, AND YARNELL COMMUNITY

Representatives: Dr. Thomas Kirkpatrick
Mrs. Rhonda Williams
Mr. Larry Bryantt

damages kept to a minimum, complaints have been voiced in the past (on public record). As the quarry operations have moved ever southwestward toward the 105 acre buffer area, these impacts have grown worse on the Community. So with the removal of the current existing 105 acre buffer between the quarry operations and the Community, these disturbances will most likely grow from nuisances to actual damages on the Community.

The Community is seeking assurances from Vulcan Lands, Inc. that with their encroachment into the current 105 acre buffer that impacts onto the Community can be kept to a minimum and equivalent to having the 105 acre buffer currently in place. The Community is further requesting that the MPC consider some of the following points in the conductance of the review to help ensure the impact to the community will be held to a minimum.

Requested Edits and Amendments to the Use On Review

The Buttermilk Community would request the following points be considered by the MPC for possible Edits and Amendments to the current Amended Use on Review presented Knoxville-Knox County Metropolitan Planning Commission.

1.) Routing of Berm and Landscaping

The Community requests that the terms of the Knox County Ordinance as amended through 2009 be applied in its entirety to this Use on Review. Per Section 4.50 "Standards For Mining and Mineral Extraction" Paragraph 1-9, specifically Paragraph 2:

The excavations shall be confined to areas at least one hundred feet from any property line within or adjacent to any residential, agricultural or commercial zone and shall be at least two hundred feet from the property line of any dwelling or platted subdivisions, and further, no overburden, spoilbank or stockpile may be deposited within one hundred feet of any such property lines except that such excavation may, with the written consent of the owners of the adjoining property, be conducted within such limits in order to reduce the elevation thereof to conform with the existing contour or average grade of the adjoining property or in order to provide for adequate drainage.

Hence the Community is requesting the following changes to the Use on Review be considered by the MPC.

- The northern berm along Buttermilk be routed to keep the outer edge of the berm at least 200ft from the roadway and at least 200ft from Graybeal where current residences are constructed across the streets. (See Figure 2)

BUTTERMILK, GARYBEAL, EVERETT, AND YARNELL COMMUNITY

Representatives: Dr. Thomas Kirkpatrick
Mrs. Rhonda Williams
Mr. Larry Bryant

- The southwestern berm along Graybeal be routed to keep the outer edge of the berm at least 100ft from the roadway. (See Figure 2)
- The southernmost part of the berm along Graybeal be routed to keep the berm at least 200ft from the roadway where adjacent properties not owned by Vulcan Lands, Inc. are located. (See Figure 2)
- All constructed berms will be landscaped within 6 months of construction (with construction taking no longer than 6 months) with indigenous biodiverse trees and plants (no monocultures). Trees will be allowed and ensured to grow as an additional blind beyond the constructed berm height.

Note: Outer Edge refers to the edge of the berm looking outward from the quarry towards the road.

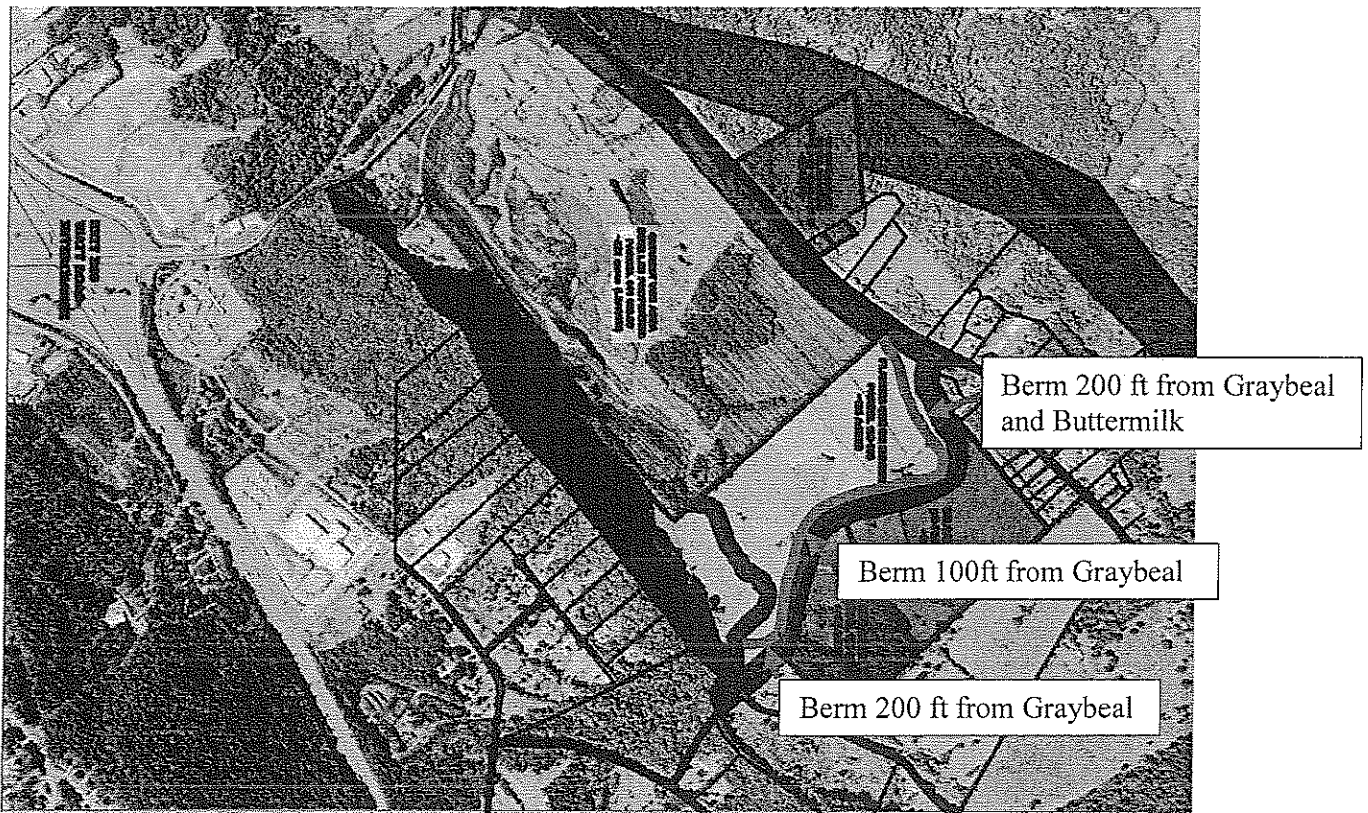


Figure 2

2.) Continuous Monitoring

In order to ensure that the impact on the Community is kept to a minimum, it is requested that the MPC consider the following requirements be placed on Vulcan Lands, Inc.

BUTTERMILK, GARYBEAL, EVERETT, AND YARNELL COMMUNITY

Representatives: Dr. Thomas Kirkpatrick
Mrs. Rhonda Williams
Mr. Larry Bryant

- It is requested that continuous Seismic and sound monitoring be provided by Vulcan Lands, Inc., via a 3rd party firm at the parameter and in strategic locations throughout the community so that the impact of blasting can be monitored and shared with the community. This will ensure that when using any explosives, blasting shall not exceed the standards of distance, amount of charge, maximum earth vibration, and maximum air shock as set forth in the United States department of the interior bureau of mines report of investigators number 8507 which is entitled 'Structure Response and Damage Produced by Ground Vibration from Surface Mines Blasting', and any amendment and/or modifications thereof, which standards are incorporated herein by reference (see italic text).

(a) Blasting limits. No licensee shall use an explosive weight in pounds per delay in excess of the formula of the distance to the nearest structure in feet, divided by the factor of seventy (70), multiplied by itself, $[W = (D/70) \text{ squared}]$, except when seismograph monitoring as set forth in subsection (b).

(b) Seismograph required. Each licensee shall be required to perform a seismograph test at the nearest structure to the blast prior to and during any blasting that would exceed the limits as set forth in subsection (c).

(c) (1) Seismic limits. At the structure nearest to the blast, the peak particle velocity in any direction at frequencies between 2.5 and 10 Hertz shall not exceed 0.5 inches per second, and at each frequency, f , greater than 10 Hertz, the peak particle velocity shall not exceed $0.05f$ inches per second up to a maximum of 2 inches per second. In addition, at the nearest structure no air-shock (sound) reading shall exceed one hundred and thirty-four (134) decibels using a 0.1-Hz, high-pass system, or exceed one hundred and thirty-three (133) decibels using a 2-Hz high-pass system or exceed one hundred and twenty-nine (129) decibels using a 5-Hz or 6-Hz high-pass system. (2) If blasting within the allowed limits as dictated under subsection (a), but is found in excess of the seismic limits of this subsection, Vulcan shall reduce the amount of explosives per delay, or adjust the operation to comply with the limits as dictated by this subsection.

It is the wish of the Community that Vulcan Lands, Inc. work to keep the blasting loads adjusted to remain within a 6 mm/s (.23in/s) ground vibration limit, with a confidence level of 95% and a maximum Air Over Pressure limit of 120 dB peak linear at the boundary and the nearest residential properties.

- It is requested that Vulcan Lands, Inc. provide engineering surveys of the property structures within the community so that a baseline can be established of the current

BUTTERMILK, GARYBEAL, EVERETT, AND YARNELL COMMUNITY

Representatives: Dr. Thomas Kirkpatrick
Mrs. Rhonda Williams
Mr. Larry Bryant

structures. This will serve as a point of reference for vibration induced damage from blasting.

- It is requested that Vulcan Lands, Inc. provide continuous acoustic monitoring through a 3rd party independent agency at strategic locations to ensure that their operations stay within an acceptable limit (65 dBA and 78 dBC at the quarry boundary) where data can be shared with the Community.
- It is requested that Vulcan Lands, Inc. provide continuous air quality monitoring within strategic locations at the boundary and within the Community to monitor dust and other harmful emissions from the quarry activities.
- It is requested that Vulcan Lands, Inc. investigate alternative safety devices in place of the backup sounding buzzers on their earth moving and excavation equipment. The Community understands the importance of these safety devices, but the sound emitting from the backup warning devices will create a undesirable sound emission into the surrounding areas. There are alternative devices that do not emit sound that should be acceptable.

3.) Use on Review for Property Owned by Vulcan South East of Graybeal

It is requested by the Community imposed on this Use on Review that the property South East of Graybeal that Vulcan Lands, Inc. owns be subject to a Use on Review by the MPC prior to any utilization by Vulcan Lands, Inc.

3.) Landscaping on Community Property

It may be advantageous due to the topography of the surrounding land to build landscaping blinds on adjacent properties in the Community. If the owner consents, would Vulcan be agreeable to the building of landscaping blinds on the properties of adjacent land owners. Please note this will have to be discussed on a property by property case with the respective owners.

SUMMARY

The Buttermilk Community appreciates this opportunity to share its concerns and to discuss possible approaches to mediate those concerns. With the proposed use and thus removal of the current 105 acre buffer area, the Community is seeking methods to ensure that the operations will not impact the surrounding areas adversely. We appreciate the MPC taking the time to review and consider our ideals.

From: Dan Kelly
To: Betty Jo Mahan
Date: 4/2/2009 8:45:20 AM
Subject: Fwd: Notice of Public hearing on April 9

>>> Craig <craig_hutto@yahoo.com> 04/01 4:07 PM >>>
Dan,

I just wanted to express my adamant objection to Vulcan Materials developing the land mentioned in file # 4-B-09-UR. This will certainly devalue our property and could pose a property damage hazard based on the proximity of blasting.

Surely there is rock elsewhere.

Craig Hutto
12528 Buttermilk Rd
Knoxville, TN 37932-2223
865.591.7632

There are three things that are real: God, human folly, and laughter.

The first two are beyond comprehension. So we must do what we can with the third. - John Kennedy

KRAMER RAYSON LLP
— ATTORNEYS AT LAW —

POST OFFICE BOX 629
KNOXVILLE, TENNESSEE 37901-0629

tomhale@kramer-rayson.com

June 10, 2009

Via e-mail

E. H. RAYSON
JOHN B. RAYSON
JOHN T. JOHNSON, JR.
WARREN L. GOOCH
WAYNE R. KRAMER
EDWARD G. PHILLIPS
THOMAS M. HALE
JACKSON G. KRAMER
BEECHER A. BARTLETT, JR.
ROBERT W. KNOLTON
JOHN C. BURGIN, JR.
ADRIENNE L. ANDERSON
CHARLES M. FINN
ROBERT A. CRAWFORD
JOHN E. WINTERS
ROBERT L. BOWMAN
CHARLES E. YOUNG, JR.
FRANCIS L. LLOYD, JR.
AMANDA M. BUSBY
STEVEN E. KRAMER
KATE E. TUCKER
BETSY J. BECK
WILLIAM J. CARVER
J. MATTHEW BROTHERTON

SPECIAL COUNSEL
SHANNON D. COLEMAN

OF COUNSEL
DONELSON M. LEAKE
HUGH W. MORGAN
G. WILSON HORDE

OFFICES
FIRST TENNESSEE PLAZA, SUITE 2500
800 SOUTH GAY STREET
KNOXVILLE, TENNESSEE 37929
TELEPHONE 865 525-5134
TELECOPIER 865 522-5723

105 DONNER DRIVE, SUITE B
OAK RIDGE, TENNESSEE 37830
TELEPHONE 865 220-5134
TELECOPIER 865 220-5132

R. R. KRAMER (1888-1966)
CARTER B. WALL (1915-1968)
ANDREW JOHNSON (1918-1985)
JACKSON C. KRAMER (1921-1993)
R. ARNOLD KRAMER (1918-1993)

Dr. Keith Kirkpatrick
12605 Buttermilk Road
Knoxville, TN 37932

RE: Knoxville/Knox County Metropolitan Planning Commission (the "MPC")
File No.: 4-B-09-UR
Use on Review (105 acres) (the "New Area")

Dear Dr. Kirkpatrick:

On behalf of Vulcan, thank you for meeting with company representatives Ken Haislip, Jack Lambert, my law partner, Don Leake, and me on June 1, 2009. Please also extend our thanks to Ms. Williams and Mr. Bryant for attending.

Since our meeting, we have been working with representatives of Vulcan to do two things. We have sought to articulate definitive, meaningful commitments that will both address the requests made by the Community, and at the same time be clear enough that any miscommunication is avoided. Some of the requests involve technical things about which most of us non-technical people are not conversant. The second thing we have been doing is gaining an understanding of the conditions recommended by MPC staff and how those mesh and/or overlap the Community's concerns that you have expressed on behalf of your group.

At the outset let me make a couple of overriding points. First, the aerial photograph with your letter is turned about 90 degrees clockwise from true north and that has caused a little confusion in some of the Community's requests, but we feel certain that we understand what you intended and will try to clarify hereinafter where it is material to the issue.

As a general matter, I believe you will find the following to be consistent with the discussions that occurred at our meeting. Of course, there are some requests in the Community's submission to us that were not specifically discussed at the meeting. The issues that we only discussed in a general way appear to relate to (1) the monitoring of certain things such as air and acoustics and (2) requests for technical standards related to vibration and air-shock/air blast

target values that are more stringent than current state regulations under which Vulcan and all quarry operators are required to operate. As you are aware from the blasting data that Mr. Haislip provided last week, Vulcan's track record against those state standards, as well as the Community's target values set out in your letter is very good.

The following is an item-by-item response authorized by Vulcan that is offered to the Community in connection with the Amended Use on Review application related to the 105 acres of property Vulcan owns that lies southwest of Graybeal Road and which adjoins the currently permitted area for its quarry operation, that area referred to herein as the "New Area":

1. Routing of Berm and Landscaping

- Request (1): The northern berm along Buttermilk be routed to keep the outer edge of the berm at least 200 feet from the roadway and at least 200 feet from Graybeal where current residences are constructed across the streets.

Response: Berms along Buttermilk Road in the New Area and along Graybeal from its intersection with Buttermilk that lies across from property owned by third party landowners will be constructed in accordance with Knox County zoning regulations and MPC staff recommendations. The outer toe of the berm will be 100 feet from the property line.

- Request (2): The southwestern berm along Graybeal be routed to keep the outer edge of the berm at least 100 feet from the roadway.

Response: The berm in this area, which is across Graybeal from property owned/controlled by Vulcan, will be constructed in accordance with Knox County's Zoning Regulations and MPC recommendations, with the outer toe of the berm along Graybeal Road, subject to certain exceptions in the zoning regulations, being a minimum of 100 feet from the right of way.

- Request (3): The southernmost part of the berm along Graybeal be routed to keep the berm at least 200 feet from the roadway where adjacent properties not owned by Vulcan Lands, Inc. are located.

Response: The outer toe of the berm, along this area, will be about 200 feet from the Graybeal Road right of way, approximately as depicted on the Community's figure 2.

- Request (4): All constructed berms will be landscaped within 6 months of construction (with construction taking place no longer than 6 months) with indigenous biodiverse trees and plants (no monocultures). Trees will be allowed and ensured to grow as an additional blind beyond the constructed berm height.

Response: The construction of berms is a continual process. Thus, Vulcan (VLI) cannot agree to construct all berms within six months. Because of the nature of stripping requirements, and the huge expense involved, the berms must be built on an on-going basis, to allow the construction of the berms from the over-burden, as the quarry pit expands on the current permitted area and the New Area toward Graybeal Road. VLI, however, will agree to build the berms along Buttermilk Road and that portion of the north end of Graybeal Rd., across from third party landowners addressed in request (2) above, before VLI mines on property included in the New Area. VLI agrees to landscape the berms within six months after completion (weather permitting) in accordance with the MPC staff recommendations.

2. Continuous Monitoring

- Request (5): It is requested that continuous seismic and sound monitoring be provided by Vulcan Lands, Inc., via a 3rd party firm at the parameter and in strategic locations throughout the community so that the impact of blasting can be monitored and shared with the community. This will ensure that when using any explosives, blasting shall not exceed the standards of distance, amount of charge, maximum earth vibration, and maximum air shock as set forth in the United States department of the interior bureau of mines report of investigators number 8507 which is entitled “Structure Response and Damage Produced by Ground Vibration from Surface Mines Blasting,” and any amendment and/or modifications thereof, which standards are incorporated herein by reference.

Response: Although not required by the Tennessee Blasting Standards Act, VLI currently has a third party firm monitor and will continue to so monitor for seismic activity and air blast for every shot. Blasting operations have been and will be conducted in accordance with the Tennessee Blasting Standards Act, T.C.A. 68-105-102, for limits on seismic activity and air blast response. However, VLI’s blasting has been conducted such that it has been in accordance with the standard referenced by the Community in almost every shot. VLI currently conducts this monitoring at one location which is at a close by residence to the north of the New Area. VLI agrees to increase the monitoring of seismic activity and air blast response to be done at three additional off-site locations which will be sited at locations generally to the west, east and south of VLI’s quarry operations.

- Request (6): (a) Blasting limits. No licensee shall use an explosive weight in pounds per delay in excess of the formula of the distance to the nearest structure in feet, divided by the factor of 70, multiplied by itself, [$W = (D/70)$ squared], except when seismograph monitoring as set forth in subsection (b).

Response: The maximum weight of explosives in pounds per delay will be in accordance with the Tennessee Blasting Standards Act. As noted above, VLI blasts are and will continue to be monitored for seismic activity.

- Request (7): (b) Seismograph required. Each licensee shall be required to perform a seismograph test at the nearest structure to the blast prior to and during any blasting that would exceed the limits as set forth in subsection (c).

Response: All VLI blasts are monitored for seismic activity, and will be shared with the community upon request.

- Request (8): (c) Seismic limits. At the structure nearest to the blast, the peak particle velocity in any direction at frequencies between 2.5 and 10 Hertz shall not exceed 0.5 inches per second, and at each frequency, f , greater than 10 Hertz, the peak particle velocity shall not exceed $0.05f$ inches per second up to a maximum of 2 inches per second. In addition, at the nearest structure no air-shock (sound) reading shall exceed one hundred and thirty-four (134) decibels using a 0.1-Hz, high-pass system or exceed one hundred and thirty-three (133) decibels using a 2-Hz high-pass system or exceed one hundred and twenty-nine (129) decibels using a 5-Hz or 6 Hz high-pass system. (2) If blasting within the allowed limits as dictated under subsection (a), but is found in excess of the seismic limits of this subsection, Vulcan shall reduce the amount of explosives per delay, or adjust the operation to comply with the limits as dictated by this subsection.

Response: VLI operations will be in compliance with the Tennessee Blasting Standard Act. A review of blast results, from 2005 through April 2009, for the Dixie Lee quarry, show the peak particle velocity and corresponding frequency results are almost always less than the Community's target values. Many factors beyond Vulcan's control affect air blast responses, but VLI will comply with 140 dB allowed by Tennessee Blasting Standards Act.

- Request (9): It is requested that VLI provide engineering surveys of the property structures within the community so that a baseline can be established of the current structures. This will serve as a point of reference for vibration induced damage from blasting.

Response: VLI proposes to conduct engineering surveys of structures along Buttermilk Road that are within 1,000 feet of the northern most property line of the new area that is adjacent to Buttermilk Road and Graybeal Road. VLI proposes to offer a community meeting before the surveys are done for those whose structures will be surveyed, and others in the community, at which presentations will be made on blasting methods, pre-blast survey procedures, and about the type of blasting and mining VLI does at the Dixie Lee Quarry.

- Request 10: It is requested that VLI provide continuous acoustic monitoring through a 3rd party independent agency at strategic locations to ensure that their operations stay within an acceptable limit (65 dBA and 78 dBC at the quarry boundary) where data can be shared with the Community.

Response: VLI responds to this request by agreeing to that which is agreed to in Request (12) below.

- Request (11): It is requested that VLI provide continuous air quality monitoring within strategic locations at the boundary and within the community to monitor dust and other harmful emissions from the quarry activities.

Response: VLI will conduct its operations in accordance with VLI's permit issued in accordance with the Tennessee Division of Air Pollution Control regulations, which are protective to its employees and adjoining neighbors.

- Request (12): It is requested that Vulcan Lands, Inc. investigate alternative safety devices in place of the backup sounding buzzers on their earth moving and excavation equipment. The Community understands the importance of these safety devices, but the sound emitting from the backup warning devices will create a undesirable sound emission into the surrounding areas. There are alternative devices that do not emit sound that should be acceptable.

Response: VLI will agree to this request.

3. Landscaping on Community Property

- Request (13): It may be advantageous due to the topography of the surrounding land to build landscaping blinds on adjacent properties in the community. If the owner consents, would Vulcan be agreeable to the building of landscaping blinds on the properties of adjacent land owners. Please note this will have to be discussed on a property by property case with the respective owners.

Response: On a case by case basis, VLI is willing to concede to this request, but based upon a visual inspection of close-by residences, VLI believes that limiting its obligation to such four (4) residences is reasonable. The parties will have to agree on the definition of what the "landscaping blind" will consist of.

Yours truly,



Thomas M. Hale

TMH/pm

Dr. Keith Kirkpatrick
June 10, 2009
Page 6

cc: Dan Kelly, MPC Staff
Jack Lambert
Ken Haislip