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By K. Witherspoon at 4:11 pm, Nov 24, 2025

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November 24, 2025

Via Email: karen.witherspoon@lewiscountywa.gov
Karen Witherspoon, AICP
Senior Project Planner
Community Development
Lewis County
125 NW Chehalis Ave.
Chehalis, WA 98532

Re: Special Use Permit Application – SUP25-0001, SEP25-0011 and MSR25-0230
Response to Comments

Dear Ms. Witherspoon:

This letter is being submitted on behalf of Good Crushing, Inc. in relation to the above-referenced proposal ("Proposal") to revise Special Use Permit ("SUP") 19-0002 to allow processing of aggregate during daytime hours and loadout as needed to fulfill project requirements (limited to 20 loads/hour during the daytime and 8 loads/hour during the nighttime). As requested in your July 25, 2025 letter, this letter provides responses to public comments submitted in response to the Proposal's notice of application.[1] As requested, a Level 1 transportation impact analysis ("TIA") is included as Attachment 1 to this letter.

I. Response to Comments

Scope of the Proposal: Commenters raise concerns with impacts associated with ongoing activities including blasting, as well as the size and scale of Good Crushing's operations. Commenters contend that ongoing activities will harm the community, and the Proposal will include or result in additional blasting. M. Cooney (6/11/25); C. Field (6/11/25); W. Swanson (6/1/25); S. Tryon (6/8/25).

Response: There is no change to the size or scale of Good Crushing's operations. Days and hours for active mining at the workface and blasting will not change under Proposal, nor will there be any change to the amount of blasting that would be permissible or required notifications for blasting. There is a finite amount of material that may be mined at the site, and the Proposal will not result in a net increase in the amount of blasting at the site over time. Good Crushing is only requesting to be allowed to

[1] Comments are grouped by topics with individual commenters identified, and collective responses are provided.

process aggregate during daytime hours (as defined in WAC Ch. 173-60, 7 am to 10 pm) and transport with limited frequencies during different times as needed to fulfill project requirements.
Appropriateness of Mining Operations: Commenters raise concerns with performance of mining activities at the site, contending that this area is a rural community where people move for peace and quiet, and it is most appropriately suited for farming and residential uses. Commenters contend that those interests should be elevated over mining operations. C. Field (6/11/25); Jones Family (6/11/25); A. & M. Klemmensen (6/11/25); L. Lewis (6/10/25); S. Lewis (6/10/25); D. & S. McFarland (6/12/25); D. Stier (6/9/25); S. Tryon (6/8/25); L. Watcher (6/9/25); D. Walters (6/10/25).

Response: Lewis County underwent a process to identify permissible uses and balance the needs of potentially competing uses in its comprehensive plan and development regulations. The Good Crushing mining operation contains Mineral resource and Rural Residential designations under the County's Comprehensive Plan. Most of the County is devoted to resource use, and the Comprehensive Plan states that it is the County's goal to "[m]aintain agricultural uses, commercial timber production, and mineral resource extraction as fundamental components of the character of Lewis County." Comprehensive Plan p. LU-41. Mineral resource lands are "an essential feature of Lewis County's identity, contributing to local employment and the retention of natural character." *Id*. It is the policy of the County to promote the economic viability of natural resource industries, encourage resource uses, protect the interests of landowners who want to utilize the natural resources on their property, and to ensure land use activities within or adjacent to natural resource lands are sited and designed to minimize conflicts with natural resource activities. *Id*. pp. LU-41, LU-44. Similarly, in Rural lands, the County promotes the development of a vital rural economy with jobs in natural resource industries, including mining. *Id*. p. LU-33.

The Good Crushing mining site is zoned Mineral Resource Lands and Rural Development District 20 Acre (RDD-20). The County's land use regulations reinforce that it is the County's policy to conserve resource land and assure the economic viability of long-term commercial resource users. LCC 17.30.030. Extraction and processing of rock, gravel, and other mineral resources is a primary use in Resource lands. LCC 17.30.450. Mining activities are also an allowed use within the RDD-20 zoning district, subject to SUP approval. LCC 17.100.020; LCC 17.42.020.

Standards for SUP approval for surface mining areas are set forth in LCC 17.42.210. These standards identify the balance that the County struck when considering potential competing demands of resource industries and other users. For reasons stated in the Proposal's application materials and below, the Proposal complies with these standards. The commenters disagree with how the County balanced the interests of resource and other users at the Good Crushing operation, desiring that the County elevate their residential and other interests above mining operations. However, that is a policy argument that must be addressed to legislative bodies. It cannot provide a basis for denying the Proposal's requested SUP revision based on current laws.

Compliance with Laws: Commenters complain that some people do not always comply with laws, including speed limits and other traffic signals. K. Bowman (6/11/25); M. Cooney (6/11/25); C. Field (6/11/25).

Response: Multiple commenters appropriately recognize that Good Crushing is a good neighbor, that their drivers are considerate, and that the company has complied with conditions of approval. K. Bowman (6/11/25); M. Cooney (6/11/25); D. & D. Krause (6/11/25); D. Stier (6/9/25). The company takes pride in operating in compliance with laws and permit conditions and trains its employees to

comply with traffic and other laws. To the extent that there are concerns regarding such compliance, those concerns can be raised with the County's enforcement division. Good Crushing has no control over whether other individuals comply with laws. Failure by other people to comply with laws cannot provide a basis for denying Good Crushing's application and preventing Good Crushing from operating on a level playing field with other mining operations.

Noise: Commenters express displeasure over noise from current operations and contend that the Proposal will have unacceptable noise impacts. K. Bowman (6/11/25); M. Cooney (6/11/25); Peggy B. (6/11/25); K. MacDonald (6/4/25); C. Field (6/11/25); E. Gross (6/11/25); C. Duren (6/5/25); Jones Family (6/11/25); D. & D. Krause (6/11/25); S. Lewis (6/10/25); M. Odlin (6/13/25); S. Tryon (6/8/25); L. Watcher (6/9/25); D. Walters (6/10/25); L. Swiefelhofer; M. Sathre (6/16/25).

Response: Acceptable noise limits for Good Crushing's mining activities at the site are established at LCC 17.142.210, which cross-references and incorporates the requirements of Chapter 173-60 WAC. A professional sound analysis is included at Attachment F to the Proposal's application materials. That analysis demonstrates Good Crushing's current operations comply with adopted noise limits, and Good Crushing's operations as modified by the Proposal will continue to comply with adopted noise limits with recommended mitigation measures. Good Crushing has committed to implementing these mitigation measures. Commenters provide no information or analysis demonstrating that the professional sound analysis at Attachment F is in any way flawed or inadequate, nor do they provide an alternative professional report that reaches alternative conclusions. Additionally, as one commenter emphasizes, "[j]ust to be clear it is not Good Trucks that are the problem they are very respectful to our community." D. & D. Krause (6/11/25). Therefore, all credible and reliable information in the record demonstrates that the Proposal will comply with adopted noise limits, and hence Good Crushing's operations will continue to have acceptable levels of noise.

Air Pollution: Commenters contend that the Proposal will have unacceptable impacts associated with air pollution, raising particular concerns regarding blasting activities and emissions from trucks. K. Bowman (6/11/2025); C. Field (6/11/25); C. Duren (6/5/25); D. & S. McFarland (6/12/25); M. Odlin (6/13/25); S. Tryon (6/8/25); D. Walters (6/10/25).

Response: The Proposal does not include any requested changes to blasting activities. Blasting activities comply with WAC Chapter 296-52 (see section below, Impacts to Buildings from Blasting). Concerns regarding impacts to air quality associated with truck emissions are regulated by the Washington Department of Ecology, which has adopted stringent standards for vehicle emissions. Good Crushing's vehicles that operate at the mine currently comply with these regulations, and they will continue to do so upon approval of the Proposal. Commenters provide no information or analysis demonstrating that operations will not comply with these standards. More generally, Condition 10 of the 2021 SUP requires the mining operation to comply with air quality standards adopted by Southwest Clean Air Agency ("SWCAA"). These requirements effectively address concerns regarding air pollution, and Good Crushing is not requesting relief from them as part of the Proposal.

Water Quality and Availability: Commenters contend that Good Crushing's existing activities are impairing water quality and that they will continue to do so in the future. K. Bowman (6/11/25); C. Field (6/11/25); C. Duren (6/5/25); L. Vian (6/4/25); Jones Family (6/11/25); D. & D. Krause (6/11/25); M. Odlin (6/13/25); L. Watcher (6/9/25). One commenter expresses concerns with water quality impacts if property to the west of Good Crushing's operations is mined in the future. C. Field (6/11/25). Some

commenters raise additional concerns with water availability. D. & S. McFarland (6/12/25); D. Walters (6/10/25).

Response: Commenters fault blasting for impairing water quality, but they provide no concrete or specific information substantiating this claim. Further, some commenters acknowledge that they currently "have good wells and wonderful drinking water and would like to keep it that way[.]" S. Tryon (6/8/25). Regardless, the Proposal will not increase the scope and scale of material that could be blasted, nor would it even allow blasting to occur during expanded hours of operations. Thus, there is no basis for concluding that the Proposal will adversely impact water quality. There is no present proposal to mine property to the west of Good Crushing's operations, and should such activity be proposed in the future concerns regarding water quality will be addressed at that time.

Light Pollution: Commenters contend that the Proposal will cause light pollution. K. MacDonald (6/4/25); C. Field (6/11/25); D. & S. McFarland (6/12/25); M. Odlin (6/13/25).

Response: SUP Condition 15 effectively addresses light pollution concerns, requiring all outdoor lighting to be limited to security lighting for access and building security and that all outdoor light to be hooded and shielded to prevent glare as seen by adjacent properties and vehicles on public roadways. No change to this condition is requested as part of the Proposal.

Roadway Impacts: Commenters contend that increased traffic associated with the Proposal will physically impair Tennessee Road, requiring increased maintenance. K. Bowman (6/11/25); Peggy B. (6/11/25); C. Field (6/11/25); A. & M. Klemmensen (6/11/25); S. Lewis (6/10/25); L. Watcher (6/9/25); D. Walters (6/10/25).

Response: Prior to the 2021 SUP restrictions on operational hours, Goods Quarry operated as needed for project demands including expanded hours similar to the proposed revision. Quarry-related traffic since 1998 has not had a deleterious effect on roadways. As discussed in the TIA, Tennessee Road is identified as a freight corridor by Washington State and by the Lewis County 2045 Comprehensive Plan. The use of Tennessee Road for transporting aggregate resources is exactly what these designations contemplate.

Traffic Impacts: Commenters note that Tennessee Road does not have shoulders and express concern that vehicles would be forced to turn into roadside ditches if needed to avoid a collision. Commenters also contend that increased traffic trips associated with the Proposal will congest roadways or otherwise cause traffic problems or harm the community. K. Bowman (6/11/25); M. Cooney (6/11/25); K. MacDonald (6/4/25); C. Field (6/11/25); C. Duren (6/5/25); A. & M. Klemmensen (6/11/25); D. & D. Krause (6/11/25); S. Lewis (6/10/25); D. & S. McFarland (6/12/25); M. Odlin (6/13/25); D. Stier (6/9/25); S. Tryon (6/8/25); L. Watcher (6/9/25); D. Walters (6/10/25); L. Swiefelhofer; M. Sathre (6/16/25).

Response: As discussed in the TIA, Tennessee Road is currently a designated freight corridor and hence continued use of this road for transporting aggregate resources (as is currently occurring and will continue under this proposal) is contemplated by state and county governments. Further, while driver safety on Tennessee Road – or on any road – is an understandable concern, the applicant is not aware of a history of elevated collisions associated with increased truck traffic from the mine prior to the 2021 SUP hourly restrictions.

Impacts to Pedestrians and Other Users: Commenters note that Tennessee Road does not have shoulders and express concerns with the safety of individuals walking, biking, and riding horses along the road with trucks operating during expanded hours. K. Bowman (6/11/25); C. Field (6/11/25); E. Gross (6/11/25); C. Duren (6/5/25); Jones Family (6/11/25); S. Lewis (6/10/25); L. Watcher (6/9/25); D. Walters (6/10/25); L. Swiefelhofer; M. Sathre (6/16/25). Some commenters state that truck drivers use Schoolhouse Road despite a directive against doing so, and one contends children are at risk from trucks because the school does not have a perimeter fence. A. & M. Klemmensen (6/11/25); W. Swanson (6/1/25). Another commenter states the County needs to designate truck routes and ban trucks from certain roads. S. Lewis (6/10/25); D. & S. McFarland (6/12/25); M. Odlin (6/13/25); D. Stier (6/9/25); S. Tryon (6/8/25).

Response: As previously discussed and highlighted by Lewis County's 2045 Comprehensive Plan, Tennessee Road is a freight corridor. It should be regarded as potentially unsafe to use that road for any non-vehicular traffic regardless of the current proposal. In response to comments regarding use of Schoolhouse Road and risks to children, Good Crushing directs its trucks to not use Schoolhouse Road, and trucks have followed this direction. *See* enclosed letter from Evaline School District (Attachment 2). Additionally, the school grounds are fenced, and the Proposal does not request any operational changes during the daytime on weekdays when kids are most likely to be present at the school. In response to comments regarding designated truck routes, the SUP Conditions 1 and 2 place several limits on access to the mining operation and use of roads. No changes to these conditions are requested with the Proposal.

Impacts to Buildings and Properties from Blasting: Commenters express concern over impacts to off-site buildings and properties from blasting activities at the mining operation. M. Cooney (6/11/25); Peggy B. (6/11/25); C. Field (6/11/25); Jones Family (6/11/25); M. Odlin (6/13/25); D. Stier (6/9/25); W. Swanson (6/1/25); S. Tryon (6/8/25).

Response: As discussed above, the Proposal does not request, nor will it result in, an increase in the amount of blasting that will occur at the site. Conditions of approval from the 2021 SUP require blasting operations to comply with WAC Chapter 296-52 (Safety Standards for Possession, Handling, and Use of Explosives), an annual blast monitoring report demonstrating compliance with WAC 196-52, and taking seismograph records and readings for each blast consistent with WAC 296-52. Good Crushing has followed these conditions. Good Crushing has submitted three blast monitoring reports to the County for blasting, reviewing seismograph data from May 2021 through December 2024. All seismograph records have shown blasts were below required thresholds performed in compliance with WAC Chapter 296-52. This is consistent with the findings and conclusions of the 2020 GeoDesign Blast Report, which demonstrated that levels of vibration experienced at surrounding residential structures would be below regulatory thresholds. Those thresholds were established by the US Bureau of Mines to prevent cosmetic cracking of wall materials (e.g., drywall panel separations). Structural damage would require even greater vibrations.

Property Values: Commenters contend the Proposal will adversely impact property values. K. Bowman (6/11/25); Peggy B. (6/11/25); C. Duren (6/5/25); A. & M. Klemmensen (6/11/25); D. Walters (6/10/25).

Response: No support is provided for this contention, and it is undermined by the Phoenix Center Policy Paper Number 53: Quarry Operations and Property Values: Revisiting Old and Investigating New Empirical Evidence (March 2018), which is enclosed with this response letter (Attachment 3). The

Phoenix Center analyzed the impact of new quarry sites on adjoining property values, concluding that prior studies suggesting that home prices near newly permitted quarries fall, are not supported by the empirical data. Such prior studies were based upon unreliable methods, and their results could not be replicated.

Agricultural Impacts: One commenter contends the Proposal will harm local agriculture due to increased dust production causing increased dust that settles on, and damages, crops. C. Duren (6/5/25).

Response: The primary activity at the mining operation that has the potential to create dust is blasting. As discussed above, no increased blasting is requested or would occur with the Proposal, and water sprayers are used on the crushing equipment to control fugitive dust, in accordance with standard industry practice and air permits. Further, processing will occur in the mine's north extraction area, significantly below the elevation of surrounding, agricultural areas. It is speculative to assert that dust from mining operations will float up out of the pit and then travel to agricultural properties in the region.

Impacts to Animals: Commenters contend that current operations disturb livestock and that the Proposal will harm wildlife and livestock by creating noise and light pollution. C. Duren (6/5/25); Jones Family (6/11/25); L. Watcher (6/9/25). One commenter states that their property contains an apiary with multiple hives and contends that truck emissions will greatly impact endangered species. A. & M. Klemmensen (6/11/25).

Response: As discussed above, the Proposal has been designed and mitigated to ensure noise impacts comply with levels that have been deemed acceptable, and SUP Condition 15 effectively addresses light pollution concerns. The DNS properly concludes that the Proposal will not generate significant noise or significantly impact wildlife. The commenters provide no specific information to substantiate that the Proposal would adversely impact wildlife and livestock. With respect to the commenter with an apiary, Good Crushing's operations are required to comply with SWCAA air quality standards, and no information is provided to indicate that operations that comply with these standards may harm bees. The commenter does not identify the endangered species that purportedly would be harmed by the Proposal. If the commenter is referring to bees, there are currently no state- or federally-listed endangered bee species present in Washington State,[2] nor would it be permissible to keep endangered bees in an apiary if they were protected under the Endangered Species Act.

Public Notification: One commenter expresses concern over notifications and contend they are within 500 feet of the site but were not notified of the Proposal. M. Cooney (6/11/25). Another commenter states community members have not received proper notification of the Proposal. L. Vian (6/4/25).

Response: The first commenter's property (737 Tennessee Road) is located more than 500 feet from the site of the Proposal (699 Tennessee Road and 322 Hale Road W, Winlock, Lewis County; tax parcel numbers 014999000000, 015003000000 & 015000000000). The second commenter provides no explanation as to how public notification was inadequate. The County properly notified the public as required by the County Code.

[2] The western bumblebee (*Bombus occidentalis*) is a candidate species. No specific information is provided by commenters indicating that the western bumblebee would be harmed by Good Crushing's current operations or under the Proposal.

Quality of Life: One commenter contends the Proposal will adversely affect the quality of life for the surrounding area and note various potential concerns associated with chronic noise or disrupted sleep. This commenter suggests the Proposal may discourage families from moving into the area, drive current families away, reduce property values, risk public services (including school funding), and undermine public trust. K. MacDonald (6/4/25). Another commenter expresses concern that the Evaline school will be shut down. E. Gross (6/11/25).

Response: The commenter's contentions regarding adverse impacts to quality of life are primarily premised on the Proposal adversely impacting specific elements of the environment including noise, traffic, light pollution, and water. For reasons discussed above, the Proposal is limited in nature, and as proposed and conditioned, it will not have unacceptable adverse impacts to the natural or built environment. This is reinforced by the County's issuance of a DNS for the Proposal, which was not appealed and is final. To the extent that the commenter contends the Proposal will adversely impact the area's quality of life in other, unspecified ways, such contention is unsupported and does not provide a basis for denying or further conditioning the Proposal. There is no basis to conclude that the Proposal will cause the Evaline School to shut down.

Responding to Concerns: Commenters state residents need to have an avenue for reporting concerns. L. Lewis (6/10/25); S. Lewis (6/10/25).

Response: SUP Condition 27 requires Good Crushing to have a designated representative available for responding to questions and concerns of adjoining landowners and the County, and to respond to questions and concerns within 24 hours. Goods Quarry has a contact phone and an email address that it provides to interested individuals through its blast notifications..

Proposal Conditions: Commenters request additional conditions of approval with the Proposal, including providing individual notifications to all properties along Tennessee Road within one mile of the mining site entrance. M. Cooney (6/11/25).

Response: SUP Conditions 24 and 25 place strict limits on when blasting may occur and notifications that must be provided to property owners and residences near the mine prior to blasting. Good Crushing is not requesting any changes to the amount, timing, frequency, or notifications of blasting activities as part of the Proposal, and no information is provided demonstrating additional limits to blasting activities or notifications are required to comply with applicable County Code provisions including LCC 17.142.210.

Level Playing Field: Commenters express concern that Good Crushing is unfairly disadvantaged and recognize that all operators should operate on a level playing field and be allowed similar hours. Some commenters suggest that the most appropriate method for resolving Good Crushing's disadvantage is to create a more efficient process for requesting work beyond current permissible hours of operations. K. Bowman (6/1/25); M. Cooney (6/11/25); L. Lewis (6/10/25); S. Lewis (6/10/25); D. Stier (6/9/25); M. Sathre (6/16/25).

Response: Good Crushing agrees that the company should not be unfairly disadvantaged by having limited hours of operations compared to other mining operations. The only appropriate solution is to allow expanded hours as set forth in the Proposal's application because only this will put GCI on a level playing field with its competitors. Merely establishing an improved process for requesting approvals to conduct processing and load-out activities at night or on the weekend does not put Good Crushing on

equal footing with operators. Additionally, based on experience, requiring Good Crushing to obtain such approvals does not work given the need to conduct those activities on an expedited basis and the limited resources at the County's disposal for promptly processing such requests.

* * * * *

Good Crushing appreciates the public's interest in the Proposal. Many commenters appropriately acknowledge Good Crushing's need to operate on a level playing field with other mines and recognize that Good Crushing is a respectful neighbor who has followed laws and conditions of approval. Good Crushing also understands and appreciates that several members of the public have concerns with the Proposal's potential impacts. As discussed above and in the Proposal's application materials, and as acknowledged in the DNS, these issues of concern are addressed by specific laws and regulations that address impacts to various elements of the environment (including traffic, noise, air, etc.). The Proposal has been carefully tailored and conditioned to avoid, minimize, and mitigate impacts of the company's mining operations to meet the standards set by the County. For these reasons, Good Crushing respectfully requests approval of the Proposal.

If you have any questions regarding the above and enclosed materials, or any additional questions that require further analysis, please do not hesitate to contact me.

Respectfully,

Jesse DeNike

Enclosures

Attachment 1

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November 18, 2025 Project #: 30711

Karen Witherspoon, AICP, Senior Project Planner
Lewis County Community Development
125 NW Chehalis Avenue
Chehalis, WA 98532

Cc: Erick Staley, Fulcrum Geo Resources LLC

RE: Good's Quarry Level I Traffic Impact Analysis (TIA)

Dear Karen,

This letter is prepared on behalf of Good Crushing, Inc. (265 Rupp Road, Toledo, WA 98591) to document the requested transportation elements identified in the July 2025 Lewis County response to the Special Use Permit Application (SUP) for Good's Quarry expansion area[1]. Exhibit 1 below excerpts the Public Works Department request for a Level I TIA for the proposed expansion, and the complete letter is provided as *Attachment A* to this report.

Exhibit 1 Lewis County Community Development SEPA Response (Excerpt, July 25, 2025)

> The Public Works Department has requested the submittal of a Level 1 Traffic Impact Analysis (TIA) per Lewis County Code (LCC) 12.60.420 *Warrants for Level I traffic impact analysis*. LCC 12.60.420(1)(b) At the county's discretion, if the project requires a SEPA review. To adequately assess a proposed development of the traffic impact on the transportation system and level of traffic service, the public works department may require a traffic impact analysis (TIA). The requirement for a TIA will be based on the size of the proposed development, existing street and intersection conditions, traffic volumes, traffic safety considerations, community concerns, and other pertinent factors relating to traffic impacts attributable to proposed developments. The proponent of a proposed development or redevelopment has the responsibility of preparing, for county review, a traffic impact analysis (TIA) as required in subsection (a) Level I TIA Trip Generation and Distribution Study. See attached Level I TIA sample outline for report format.

The remainder of this letter provides a Level I TIA analysis in accordance with Lewis County Road Standards *12.60.410 Level of Analysis* for the Good's Quarry expansion area. As documented, the expansion area is anticipated to be able to continue to be accommodated by existing transportation infrastructure. Additional details are provided herein.

[1] Type III Application – Special Use Permit Application – SUP25-0001, SEP25-0011 and MSR25-0230; Determination of Completeness Letter; parcel numbers: 014999000000, 015003000000 & 015000000000.

GOOD'S QUARRY LEVEL I TIA

The following transportation analysis follows the outline provided under Lewis County Road Standards *12.60.410 Level of Analysis, Exhibit 3: Level I TIA*, addressing relevant and applicable criteria. The complete sample TIA report format is provided as *Attachment B* to this report.

PROPOSED DEVELOPMENT

Good's Quarry is located approximately 0.5 miles west of Tennessee Road in Lewis County, Washington. The quarry is operational and all existing truck operations travel through the access road and weigh station upon entrance and exit to the quarry. A site vicinity map is shown below.

Exhibit 2 Site Vicinity Map

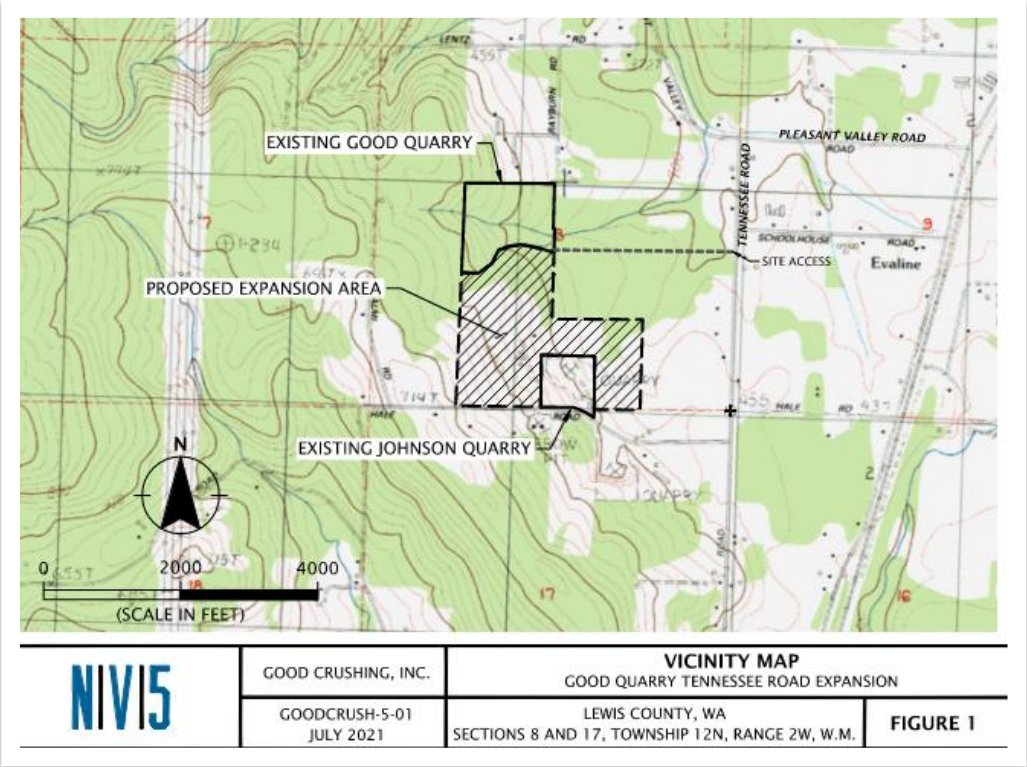
Background: 2021 Special Use Permit

Good's Quarry expansion was approved in 2021 under Special Use Permit (SUP 19-0002) and reflects the site area shown in Exhibit 2 above. While the Quarry's 2021 application materials document an estimated truck traffic of up to 200 loads a day, no formal condition was adopted that limits the number of daily haul trucks under the current SUP.

As part of the SUP approval, the decision resulted in restricted hours and days of operation, reducing the quarry's 24-hour operations to 10-hour operations. The SUP permit thus limits current quarry operations to a 10-hour operations period defined from 7:00 AM to 5:00 PM Monday to Friday, excluding weekends.

Exhibit 3 below illustrates the prior Good's Quarry site as well as the 2021 approved expansion area.

Exhibit 3 Quarry Expansion Area (2021 SUP Application)



Proposed Request

Good's Quarry seeks a modification to the SUP conditions related to hours of operation permitted, noting that existing limitations are more restrictive than other, similar operations in the County.

The requested increase in hours of operation is anticipated to increase the total number of daily trucks but will have no effect on weekday hourly operations as compared to current weekday hourly operating conditions. Additional details provided in later sections.

Peak Operating Conditions

Good's Quarry typical peak-season daily traffic occurs from June through September. During this four-month period, approximately 160 to 200 truckloads (reflects 320 to 400 trips) are typically served in a 10-hour day, operating from 7:00 AM to 5:00 PM, Monday through Friday, consistent with the current SUP. These estimates reflect an average peak operating condition of 20 truck hauls per hour, which may be as much as 30 hauls per hour during the weekday AM peak hour (reflects busiest time of day, consistent with the current SUP). Non-peak season daily traffic occurs for the remaining eight months and may experience approximately half of the peak season demand during the same hours of operations.

Purpose of Request

The proposed changes are sought to provide operational flexibility to increase production capacity on an as-needed basis and include a request to allow limited overnight operations (consisting of loadout of customer trucks). Overnight operations could be conducted on a limited basis to meet seasonal peak market demand or occasionally requested public works or emergency response projects and are not expected to reflect an average operating condition.

The proposed modification to the current SUP conditions includes the following requests:

- Remove weekday restriction and allow operations seven days per week; and,
- Remove 10-hour restriction to allow for the option for daytime (between 7:00 AM and 10:00 PM) processing and loadout and 24-hour operations, as needed.

This proposal would allow operations consistent with the *Winston Quarry, Inc.* decision[2], included as *Attachment C* to this letter for reference.

Phasing and Timing of the Project

As documented above, the expansion area was approved for mining activities in 2021, and no changes to zoning or transportation infrastructure are proposed. As such, the decision to allow for the proposed modifications to the current SUP conditions would allow the applicant to begin operations concurrent with the timing of the adoption of revised conditions of approval.

[2] Winston Quarry, Inc. – Modification of Special Use Permit, Hearing No. 06-6-003 (March 3, 2011)

TRAFFIC IMPACTS ASSESSMENT

The remainder of this report provides the remaining elements of the *Level I TIA*, consistent with the outline provided in *Attachment B*.

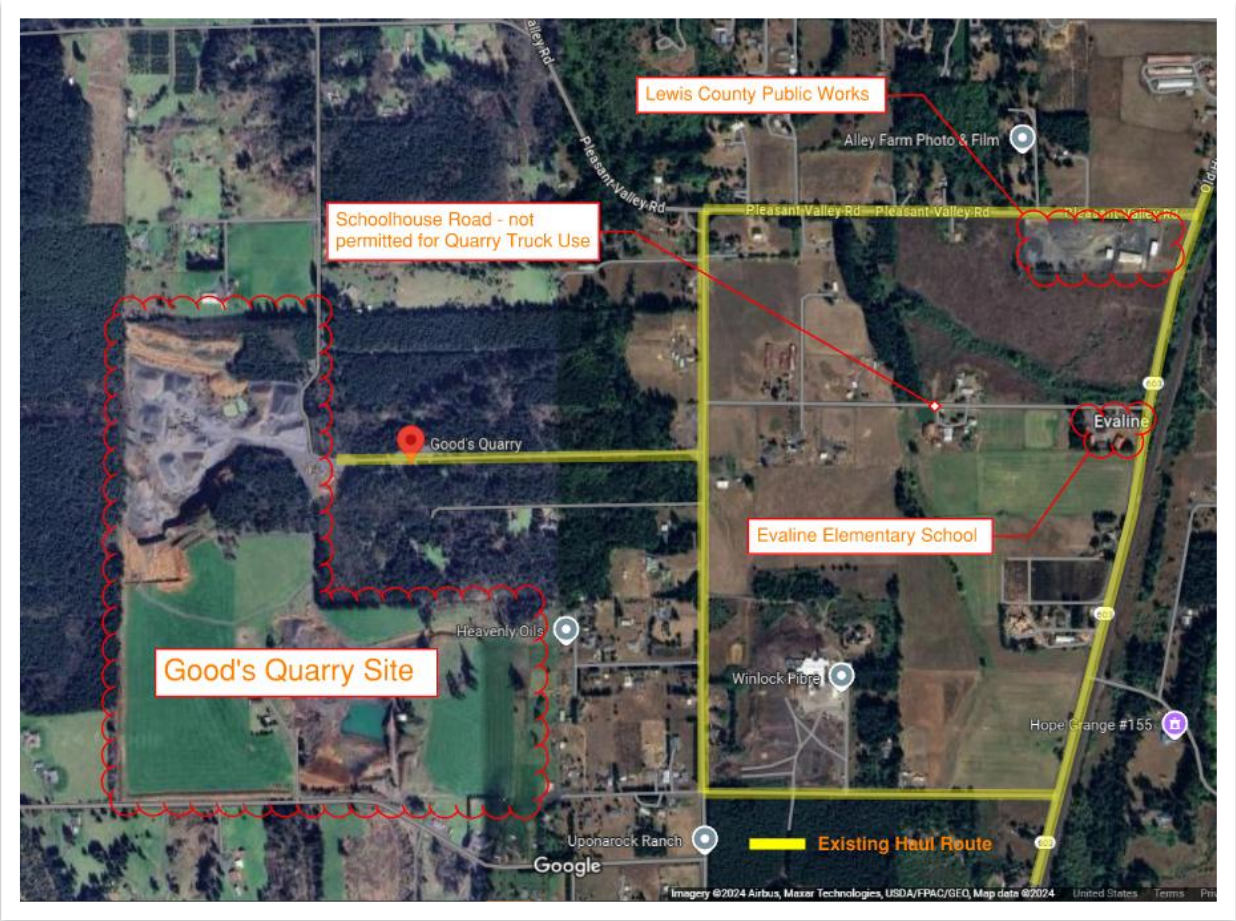
Existing Conditions

Existing operating conditions are summarized in the prior section, and no changes to access or truck routes are proposed as part of the SUP amendment request.

Study Area

Surrounding land uses include rural farmland, low-density single-family homes, Lewis County Public Works along Pleasant Valley Road, and Evaline Elementary School along Schoolhouse Road near Old Highway 603. Exhibit 4 below reflects the site study area, including site access, surrounding land uses, and the existing truck routes for reference.

Exhibit 4 Site Access Map



Site Accessibility

Vehicle and truck access to Good's Quarry is provided via the site driveway intersection with Tennessee Road. No transit routes, no dedicated pedestrian facilities (including trails), nor dedicated bicycle lanes are provided within the site study area shown in Exhibit 5.

Trip Generation and Distribution

With the proposed revision in hours, the existing 200-truck daily load over a 10-hour day may increase as a result of the proposed 24-hour operations. The estimated increase (over a 24-hour period) and the distribution of trips is documented herein.

Trip Generation

Passenger vehicle (private vehicles of employees, service vehicles, etc.) trip profiles may change as a result of new shift patterns; however these would occur during off-peak hours and are not anticipated to significantly change with this SUP revision request; as such, the analysis below reflects only the known changes in haul-truck traffic. Historically, the morning peak hour has experienced a marginally higher peak than the evening peak hour, and no change to those operating conditions are anticipated.

For the purposes of this analysis, two trip generation scenarios are presented. The first reflects consistency with the 2025 Special Use Permit application, per the narrative described on Page 3 (provided under separate cover). This analysis reflects the modification request as guided in part by truck haul demand as well as a noise study (also provided under separate cover), which limits the number of haul trucks per hour (20 loads per hour from 7:00 AM to 10:00 PM and 8 loads per hour from 10:00 PM to 7:00 AM).

The second analysis reflects a sensitivity analysis for up to 600 trucks per day (1,200 trips), reflecting a *stress-test* of the system, based on demand generated by a proximal project along Tennessee Road that occurred prior to the 2021 SUP. Each trip generation scenario is provided in the following sections.

The trip generation in the following sections reflect truck trips to-and-from the site, resulting in two trips being counted for one truck (arrival = 1 trip, departure = 1 trip). For example, the existing 200-truck daily loads are represented as 400 daily trips.

Special Use Permit Application Trip Generation Request

As documented in the Special Use Permit application narrative, the proposed number of haul trucks per hour is based, in part, on the provided noise analysis and findings. The findings, (provided under separate cover) present the following average number of haul trucks during the following times of day:

- From 7:00 AM to 10:00 PM: 20 trucks per hour; 20 x 15 hours = 300 trucks = **600 trips**
- From 10:00 PM to 7:00 AM: 8 trucks per hour; 8 x 9 hours = 72 trucks = **144 trips**

The anticipated impact to trip generation is summarized below in Table 1.

Table 1 Special Use Permit Application Trip Generation (Haul Trucks Only)

Quarry Operations Scenario	Weekday Daily	Weekday AM Peak Hour			Weekday PM Peak Hour			Weekend Daily	Weekend Peak Hour		
		Total	In	Out	Total	In	Out		Total	In	Out
Pre-2021 (no expansion area)	1,200	60	30	30	60	30	30	1,200	60	30	30
2021 SUP Conditions	400	60	30	30	40[1]	20	20	--	--	--	--
2025 Proposed SUP Revisions	744	40	20	20	40	20	20	744	40	20	20
Net New Trips (2025 minus 2021)	**344**	**-20**	**-10**	**-10**	**0**	**0**	**0**	**744**	**40**	**20**	**20**

[1] Reflects average hourly truck trips over the 10-hour day: 400 daily trips / 10 hours = 40 trips/hour

As shown in Table 1, the overall daily truck trips could increase by 177 additional trucks (344 trips) from the addition of the potential for overnight operations. The maximum hourly trucks are anticipated to be limited by the findings of the noise study, reflecting a decrease of 20 trips during the weekday AM peak hour (as compared to the 2021 SUP Conditions) and no change in the weekday PM peak hour.

Sensitivity Analysis (600-daily Truck Scenario)

This example is considered a rare occurrence and well in-excess of typical average peak demand. However, to provide a sensitivity analysis for a potential highest-trip scenario, the trip generation provided herein applies this 600-truck demand as a reasonable highest potential trip generation condition.

Compared to the current 200 daily truck demand over a 10-hour period, the daily truck trip generation thus could theoretically result in up to 600 trucks over a 24-hour period, as stated in above example. However, the resulting peak hour demand results in a less significant increase during the weekday PM peak hour and no expected change in the weekday AM peak hour.

The trip generation estimate is provided in Table 2 on the following page.

Table 2 Trip Generation Scenarios (Haul Trucks Only)

Quarry Operations Scenario	Weekday Daily	Weekday AM Peak Hour			Weekday PM Peak Hour			Weekend Daily	Weekend Peak Hour		
		Total	In	Out	Total	In	Out		Total	In	Out
Pre-2021 (no expansion area)	1,200	60	30	30	60	30	30	1,200	60	30	30
2021 SUP Conditions	400	60	30	30	40[1]	20	20	--	--	--	--
2025 Proposed SUP Revisions	1,200	60	30	30	50[2]	25	25	1,200	60	30	30
Net New Trips (2025 minus 2021)	**800**	**0**	**0**	**0**	**10**	**5**	**5**	**1,200**	**60**	**30**	**30**

[1] Reflects average hourly truck trips over the 10-hour day: 400 daily trips / 10 hours = 40 trips/hour

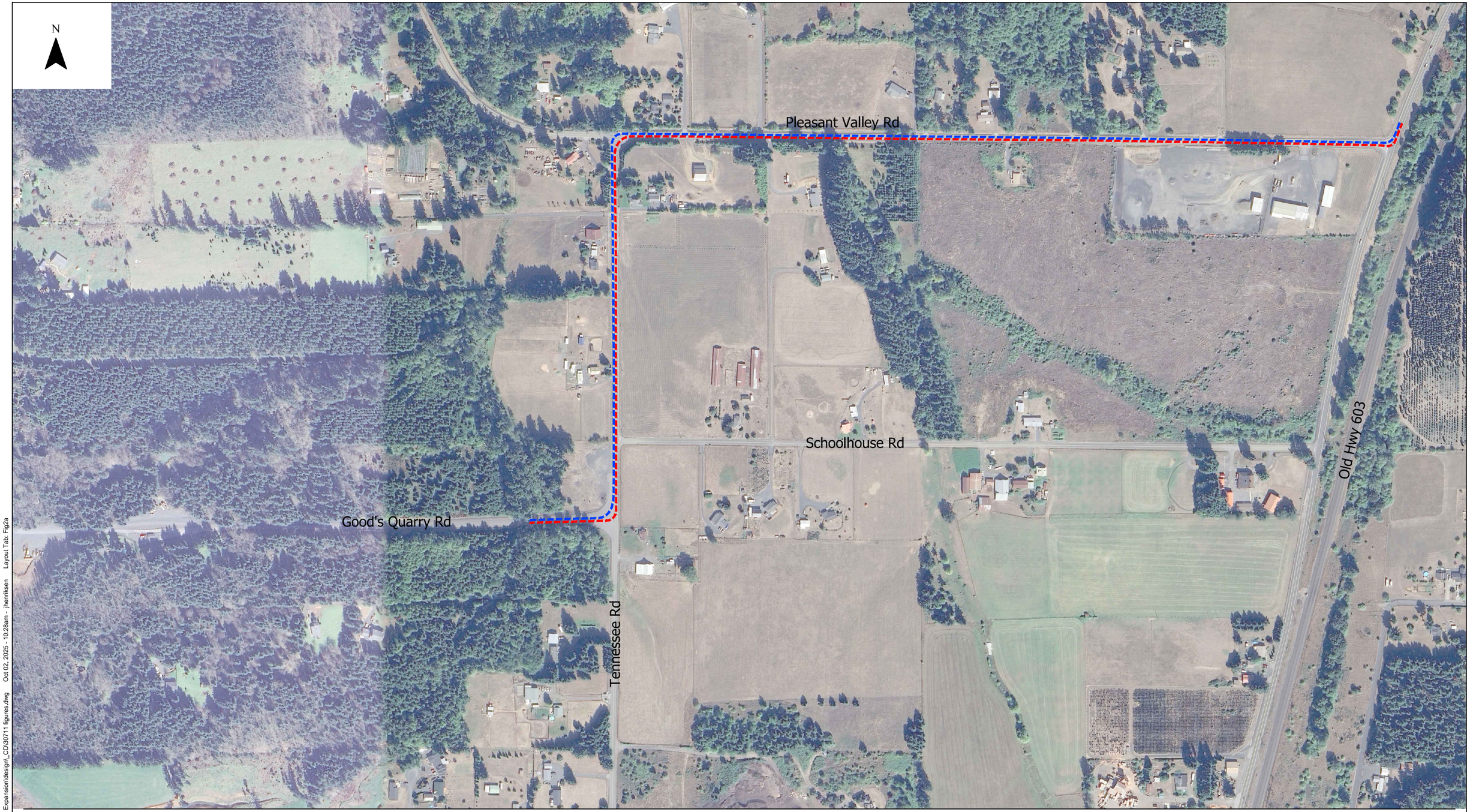
[2] Reflects average hourly truck trips over the revised 24-hour day: 1,200 daily trips / 24 hours = 50 trips/hour

As summarized in Table 1, the sensitivity analysis for a potential *maximum load scenario* (1,200 daily trips[3]) may result in an increase of up to 800 daily trips over current operations, but consistent with pre-2021 quarry operations. As noted in the table footnote, on a per-hour basis, the existing daily operations occurring over ten hours results in an average of 40 trips (20 trucks) per hour. With a revision to 24-hour operations, a maximum of 1,200 daily trips results in an average of 50 trips (25 trucks) per hour. As such, the resultant average increase of hourly trips on the adjacent roadway system is 10 trips (5 trucks) per hour. As stated previously, a 1,200 daily-trip demand with overnight operations would be rare and occur for special projects, and we would defer to the County to work with and coordinate this level of activity on an as-needed basis with the applicant.

Trip Distribution

As documented under Existing Conditions, no changes to the haul route are proposed, and the current restriction of usage of Schoolhouse Road is intended to be upheld. A haul route map that connects the quarry access road to Old Highway 603 is provided in Figures 1A and 2A.

[3] Does not represent a typical production capacity per hour and exceeds what is proposed in the 2025 Special Use Permit application; rather, reflects a peak condition that could be needed to accommodate special projects.



LEGEND

Inbound Route

Outbound Route

Recommended Northern Haul Routes
Winlock, Washington

Figure
1A

KITTELSON & ASSOCIATES

LEGEND

Inbound Route

Outbound Route

Recommended Southern Haul Routes
Winlock, Washington

Figure
1B

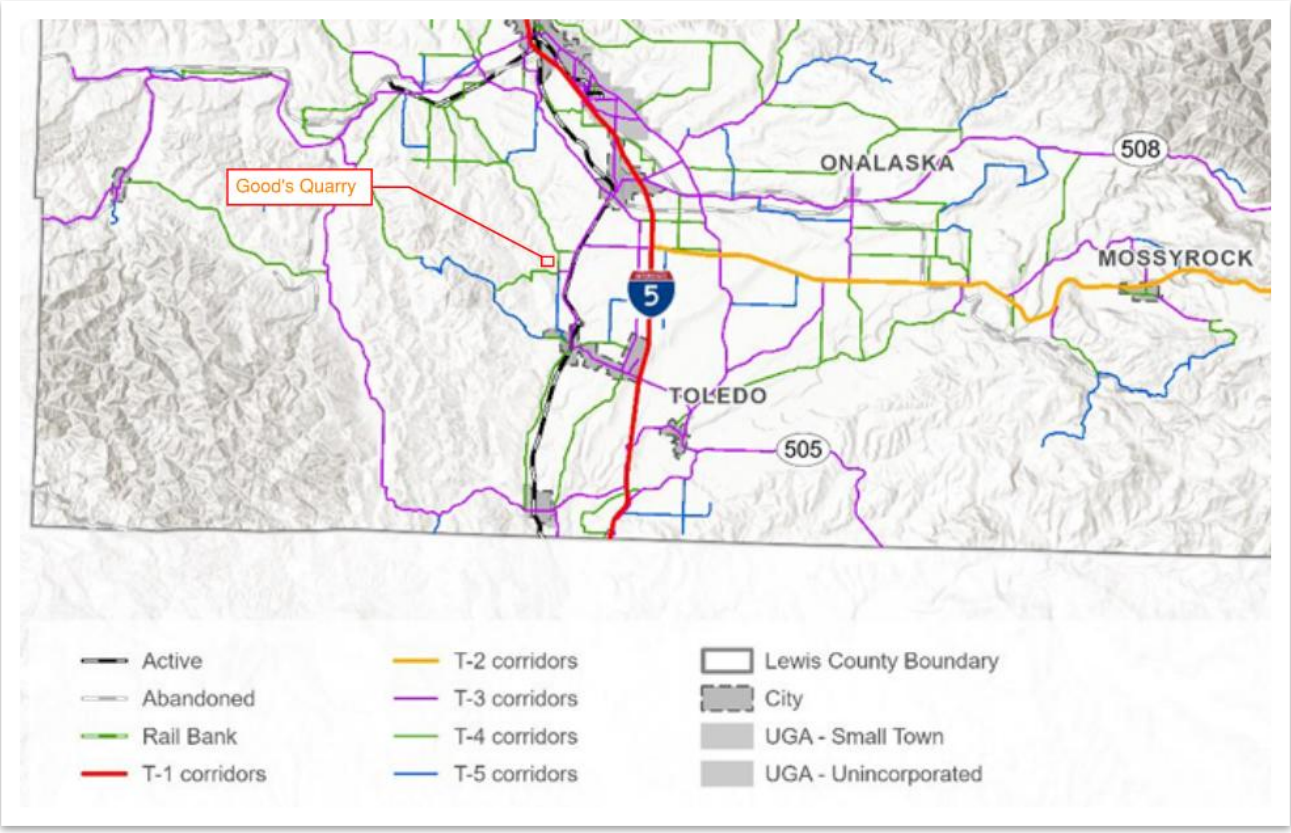
KITTELSON & ASSOCIATES

PUBLIC INFRASTRUCTURE CONSIDERATIONS

A collection of public input was submitted to Lewis County Community Development that includes various comments citing *narrow rural roads lacking shoulders* and *interaction between vehicles and non-motor-vehicle users.*

As documented herein, the added traffic volumes resulting from the Special Use Permit request is not expected to exceed the operating- nor infrastructure-capacity of the designated freight routes. As noted in the County's 2045 Comprehensive plan, Tennessee Road and Pleasant Valley Road are designated T-4 corridors, while Old Highway 603 and Hale Road are designated T-3 corridors.

Exhibit 5 Lewis County Comprehensive Plan Freight Designations



Washington State classifies these corridors under the Freight and Goods Transportation System (FGTS) designations, recognizing that the corridors serve a statewide freight demand. The classifications define tonnage thresholds for truck, rail, and waterway freight corridors and identify heavily used freight transportation networks within the state. The applicant's proposed use is expected to be consistent with the statewide freight designations in the vicinity of the site.

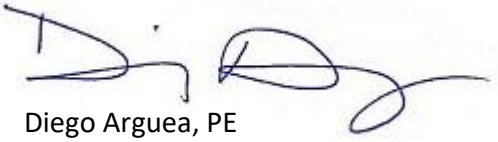
FINDINGS

The proposed operations associated with the Special Use Permit are consistent with the intended use of the roadways as classified by the Washington State FGTS. The operators of freight vehicles along these corridors (including Good's Quarry) receive required training and continuing education to follow all traffic laws, roadway speeds, and designated haul routes.

Based on the projected limited increase in peak-hour truck traffic volumes, no level-of-service or volume-to-capacity impacts are anticipated, and additional engineering analysis is not triggered based on the increase of fewer than 50 weekday AM or PM peak hour trips alone (Lewis County Road Standards: 12.60.410). Further, the sensitivity analysis provided for a potential *highest-trip* scenario demonstrates that the increase in average truck traffic on an hourly basis could continue to be accommodated on an as-needed basis. Proactive coordination of haul route traffic should be managed to minimize potential peak congestion.

We trust that the enclosed materials address the County's Level I TIA requirements for the proposed revision of the 2021 SUP restriction of operating hours. Please let us know if you have follow-up questions.

Sincerely,
KITTELSON & ASSOCIATES, INC.



Diego Arguea, PE
Principal Engineer

Attachment A

Lewis County Community Development SEPA Response

LEWIS COUNTY
Washington's First County
est. 1845

Community Development

125 NW Chehalis Ave
Chehalis WA 98532

July 25, 2025

Good Crushing, Inc. (sent electronically)
265 Rupp Road
Toledo, WA 98591
alangood@toledotel.com
wallerjohne@gmail.com

RE: Type III Application – Special Use Permit Application – SUP25-0001, SEP25-0011 and MSR25-0230; Determination of Completeness Letter; parcel numbers: 014999000000, 015003000000 & 015000000000

There were no appeals of the Determination of Nonsignificance (DNS) issued for Good Crushing, Inc. special use permit amendment of operating hours, and the environmental review process is now complete. The DNS threshold determination is retained. Comments were submitted by County reviewers and the public. I have enclosed all the public comments (25 letters/ emails) received during the SEPA notice and Special Use Permit notice of application. The public comments have been combined into one document for your review and response.

The Public Works Department has requested the submittal of a Level 1 Traffic Impact Analysis (TIA) per Lewis County Code (LCC) 12.60.420 *Warrants for Level I traffic impact analysis*. LCC 12.60.420(1)(b) At the county's discretion, if the project requires a SEPA review. To adequately assess a proposed development of the traffic impact on the transportation system and level of traffic service, the public works department may require a traffic impact analysis (TIA). The requirement for a TIA will be based on the size of the proposed development, existing street and intersection conditions, traffic volumes, traffic safety considerations, community concerns, and other pertinent factors relating to traffic impacts attributable to proposed developments. The proponent of a proposed development or redevelopment has the responsibility of preparing, for county review, a traffic impact analysis (TIA) as required in subsection (a) Level I TIA Trip Generation and Distribution Study. See attached Level I TIA sample outline for report format.

Your project clock timeline will pause until both items 1 and 2 have been completed:

1. The Level I TIA has been submitted, processed and the Public Works Department has rendered a decision along with any recommended conditions of approval.

2. You or your consultant have provided responses to the public comments.

Once the above items have been completed, the public hearing will be scheduled with the County Hearing Examiner and Notice of Hearing will be published, provided to the 500 foot mailing list and to all parties that have commented on the Notice of Application and SEPA Determination.

Please keep in mind, when I prepare the staff report to the Hearing Examiner I will be citing your documents to illustrate how your requested amendment meets or does not meet the county code sections related to reviewing a special use permit and for consistency with the original special use permit decision.

Sincerely,

Karen Witherspoon

Karen Witherspoon, AICP
Senior Project Planner
karen.witherspoon@lewiscountywa.gov

CC: Erick Staley – erick@fulcrumgeo.com (sent electronically)

Attachment B

Traffic Impact Analysis
(Lewis County Code
12.60.420)

Exhibit 3:

TRANSPORTATION IMPACT ANALYSIS

LEVEL I STUDY REPORT FORMAT

[Example 1]

I. Introduction and Summary
   1. Report Certification
   2. Purpose of Report and Study Objectives

II. Proposed Development
   1. Description
   2. Location and Vicinity Map
   3. Site Plan
   4. Proposed Zoning (if rezone proposed)
   5. Proposed Land Use and Intensity
   6. Phasing and Timing of the Project

III. Existing Conditions
   1. Study Area
      a) Limits of traffic study
      b) Existing zoning
      c) Existing land uses
   2. Site Accessibility
      a) Area roadway system
      b) Transit service
      c) Pedestrian and bicycle facilities

IV. Trip Generation and Distribution
   1. Trip Generation
   2. Trip Distribution

V. Appendices
   1. Trip Generation Calculations
   2. Passerby and Origin-Destination Studies
   3. References

Attachment C

2011 SUP Modification

(Winston Quarry, LLC)

LEWIS COUNTY HEARING EXAMINER

299 N.W. CENTER STREET
P.O. BOX 939
CHEHALIS, WASHINGTON 98532
PHONE: (360) 748-3386
FAX: (360) 748-9533

March 3, 2011

Lewis County Commissioners
360 N.W. North Street
Chehalis, Washington 98532

Re: Winston Quarry, Inc.- Modification of Special Use Permit
Hearing No. 06-6-003

Dear Sirs:

Enclosed herewith please find a copy of the Findings of Fact and Decision with regard to the above matter. Should you have any questions, certainly feel free to call.

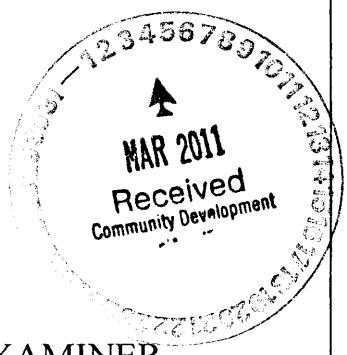
Very truly yours,

SENT WITHOUT SIGNATURE TO AVOID DELAY

William C. Boehm
Lewis County Deputy Hearing Examiner

WCB:klf
Encl.

cc: Mr. Lynn Deitrick, w/encl.
Winston Quarry, Inc., w/encl.



BEFORE THE LEWIS COUNTY HEARINGS EXAMINER

In re: WINSTON QUARRY, INC., Applicant.	**HEARING NO. 06-6-003** **FINDINGS OF FACT AND DECISION**

THIS MATTER came on for public hearing at 1:30 p.m. on February 28, 2011, before the Deputy Lewis County Hearings Examiner for the purpose of revising the Special Use Permit (SUP) issued on October 19, 2006, to extend the days and hours of operation of the Winston Quarry. More specifically, the Applicant seeks to expand the operating house to twenty four hours per day, seven days per week.

The Applicant was present at the hearing. In addition, Lynn Deitrick and Jerry Basler were present from Lewis County Community Development. There were no comments from the public.

The current operation consist of an approximately 38.2 acre surface mine for the extraction and processing of rock.

The current SUP provides for operation hours of 7:00 a.m. to 5:00 p.m. Monday through Friday. Operation on weekends was limited to one Saturday per month.

WILLIAM C. BOEHM
ATTORNEY AT LAW
P. O. BOX 448
CHEHALIS, WA 98532
(360) 748-6260
FAX (360) 748-6266

Based upon the forgoing I make the following:

FINDINGS OF FACT

1. The Applicant requests a revision to the original SUP to expand his operating hours.

2. The site is zoned RDD-5.

3. Lewis County staff recommends approval of the requested expansion of operating hours subject to certain conditions as contained in the staff report.

4. Landowners within 500 feet of the project were mailed notification of the public hearing.

5. Lewis County Code, 17.160.040, provides that the hearing examiner may approve revisions to a SUP providing that the proposed changes are within the scope and intent of the original permit. The proposed revision is within the scope and intent of the original permit.

Based upon the above findings, the Hearing Examiner Issues the following:

DECISION

1. The Hearing Examiner has jurisdiction over the parties and subject matter.

2. Operations shall be permitted beyond the days and times set forth in condition 31 of the original SUP issued October 19, 2006.

3. Operations are hereby permitted twenty-four (24) hours per day seven (7) days per week on an as needed basis upon twenty-four (24) hours written notice to all properties within 500 feet of the subject site. The applicant shall also provide twenty-four (24) hour written notice and explanation to Lewis County Community Development. The applicant shall include in the written notification the estimated times when the operations will be outside the original 7:00 a.m. to 5:00 p.m. schedule. Applicant shall try not to operate before 9:00 a.m. and beyond 5:00 p.m. on weekends. There shall be no blasting of rock on weekends or time outside the original operation times.

Dated this 2nd day of March, 2011.

William C. Boehm
Lewis County Hearing Examiner

WILLIAM C. BOEHM
ATTORNEY AT LAW
P. O. BOX 448
CHEHALIS, WA 98532
(360) 748-6260
FAX (360) 748-6266

2025 NE Kresky Avenue
Chehalis, WA 98532
360-740-1146 – Office
360-740-1245 – Fax
www.lewiscountywa.gov

LEWIS COUNTY
COMMUNITY DEVELOPMENT DEPARTMENT

MEMORANDUM

November 24, 2010

TO: Lewis County Hearing Examiner

FROM: Lynn Deitrick, Lewis County Community Development

SUBJECT: Transmittal of Staff Report for Winston Quarry Special Use Permit Revision – Hearing Date February 28, 2011.

Enclosed is the staff report for the above application.

Thank you.

LEWIS COUNTY, WASHINGTON

REPORT AND RECOMMENDATION
TO THE HEARING EXAMINER

PROJECT: Winston Quarry revision to Special Use Permit for hours of operations

FILE NO(s): SUP11-0002 xref SUP05-00006

I. SUMMARY OF PROPOSED ACTION:

The applicant is proposing a revision to the Special Use Permit approved by the Lewis County Hearing Examiner on October 19, 2006 (Hearing Examiner No. 06-6-003). The applicant Bart Lyons proposes a change to the days and hours of operations to accommodate additional shifts as needed.

The current operation consists of an approximately 38.2 acre surface mine for the extraction and processing of rock. The existing quarry activities shall comply with all original permit requirements with the exception of the applicants requested revision to the days and hours of operation (Condition 31 and 32 of the Hearing Examiner decision).

II. GENERAL INFORMATION:

Owner/ Applicant:	Bart Lyons Winston Quarry, Inc. 269 Winston Creek Rd. Mossyrock, WA 98564
Parcel(s):	Tax Parcel Numbers 028751-033-000, 028751-035-000, 028751-014-000, 028751-027-000, 028751-006-000, 028769-013-000, and 028769-001-001, Section 21, T 12 N, R 2 East, W.M., Lewis County, Washington.
Location:	Site address is 269 Winston Creek Rd., Mossyrock, Washington 98564.
Zoning:	RDD1-5 – Rural Development District 1 dwelling unit per 5 acres.
Acreage:	38.2 +/- gross acres
Access:	Direct access from county right-of-way, Winston Creek Rd.
Proposed Use:	Existing use is a rock quarry.
Sewage:	On-site septic system
Water Supply:	Existing on site well(s).
Fire District:	LCC Fire Protection District 8 (Salkum).

III. HISTORY/BACKGROUND:

The applicant originally submitted a Special Use Permit (SUP) application to Lewis County on June 23, 2006. A State Environmental Policy Act review was completed resulting in a Mitigated Determination of Nonsignifance (MDNS) threshold determination for the project. The MDNS was issued August 29, 2006. The SUP was heard by the Lewis County Hearing Examiner October 17, 2006 and the Hearing Examiner issued a decision of approval with conditions on October 19, 2006 (Attachment A.2).

The applicant is currently proposing to revise the currently approved SUP to permit extension of the days and hours of operation of the quarry on as needed basis (Attachment A.1).

IV. SEPA THRESHOLD DETERMINATION

The original SEPA checklist (Attachment discussed noise and identified those typical hours of operations as being 7:30 am to 4:30 pm. However in the SEPA checklist it noted that, "Hours may vary if public project contract specifications require nighttime operations." No change is proposed to the issued MDNS.

V. PUBLIC HEARING NOTICE

Landowners within 500 feet of the project were mailed notification of the public hearing on February 14, 2011 (Attachment A.3). The public hearing notice was published in both the East County and The Chronicle on February 16, 2011 (Attachment A.7).

VI. AGENCIES CONTACTED

1. Lewis County Environmental Health
2. Lewis County Public Works

VII. REVISIONS TO SPECIAL USE PERMITS

Lewis County Code (LCC) 17.160.040 states, "The hearing examiner may approve revision to special use permits providing that the proposed changes are within the scope and intent of the original permit. 'Within the scope and intent of the original permit' shall mean the following:

> (1) Lot coverage and height may be increased a maximum of 10 percent from the provisions of the original permit; provided that revisions involving new structures not shown on the original site plan shall require a new permit; and provided further that any revisions authorized under this paragraph shall not exceed height, lot coverage, setback, or any other requirements of the regulations for the area in which the project is located.
>
> *Response: No change is proposed by the applicant to the existing structures, lot coverage, height, setback or regulations. The applicant is requesting a change to condition number 31 and 32 of the Hearing Examiner's original decision dated Oct. 19, 2006.*
>
> (2) Landscaping may be added to a project without necessitating an application for a new permit; provided that the landscaping is consistent with conditions (if any) attached to the original permit and is consistent with the regulations for the area in which the project is located.
>
> *Response: No change is proposed to required landscaping.*
>
> (3) The terms of any permit issued for a project by a resource agency, including Washington State Department of Fish and Wildlife, HPA, water quality permit, Chapter 90.48 RCW, Chapter 90.58 RCW, or permit issued by the U.S. Army Corps of Engineers.

Response: As conditioned, the proposal will comply with the terms of any permit issued for the project by the Washington State Department of Fish and Wildlife (i.e., HPA, water quality permit), Lewis County, or by the U.S. Army Corps of Engineers.

(4) The use authorized pursuant to the original permit is not changed.

Response: No change is proposed to the use of the site for quarrying rock.

(5) No additional over-water construction will be involved for shoreline conditional use permits.

Response: No additional construction and/or over-water construction is proposed.

(6) No substantial increase in adverse environmental impacts will be caused by the project revision.

Response: No substantial increase in adverse environmental impact will be caused by the proposed alteration to the hours of operation on an as need basis. The applicant proposes to notify property owners 24 hours before they operate outside of normal operating hours (7:00 am to 5:00 pm, Monday through Friday – Hearing Examiner condition 31). Noise will continue to meet condition 19 of the Hearing Examiner approval dated October 19, 2006. To avoid excessive disturbance to the properties in the vicinity staff recommends that blasting not be permitted after 5:00 pm. Staff spoke with the applicant about this limitation and the applicant said blasting occurs during the normal operation hours of 7:00 am to 5:00 pm, Monday through Friday.

VIII. FINDINGS

A. The requested revision is consistent with Lewis County Code permitting the Hearing Examiner to hear revisions to SUP's per LCC 17.160.040. The original SUP conformed to the goals of the Lewis County Comprehensive Plan, Lewis County Board of County Commissioners, and the general and special conditions of special uses as noted in the original SUP.

IX. STATUTES/CODES

Lewis County Code Chapters 15, 16, and 17 collectively provide the County's development regulations. If approved as recommended in this report, the proposed Special Use Permit will comply with the requirements of Lewis County Comprehensive Plan and will comply with the minimum requirements of the zoning district.

X. COMMENTS

The following issues of concern were raised by Lewis County Health and Social Services.

1. The original project required an approved Group B public water supply to serve the facility (Hearing Examiner condition #29). To date the condition has not been met. However, on January 10, 2011, Lewis County conducted and approved a well site inspection but system approval is still pending.

The applicant was contacted and is working with his engineer to complete the job and provide the information to the County.

XI. CONCLUSIONS

With the condition of approval recommended in this report, the proposed revision to the Special Use Permit will comply with the requirements of the Lewis County Code and other official land use controls of Lewis County.

XII. RECOMMENDATIONS

Staff recommends that the Special Use Permit applications be **approved**, subject to the following revision to condition number 32 of the original Hearing Examiner approval.

A. Operations shall be permitted to occur beyond those days and times identified under condition 31 of the Hearing Examiner Approval dated October 19, 2006 on an as need basis upon 24 hour notification of properties within 500 feet of the subject site. The applicant shall also provide 24 hour written notification and explanation to Lewis County Community Development as to why the work will occur outside normal operation as noted in condition 31 of the original Hearing Examiner approval. The applicant shall include in the written notification and explanation the estimated time frame the operations will be outside of the normal schedule. No blasting of rock will occur outside the normal operating hours as found in condition 31 of the original Hearing Examiner Approval. ~~not occur on weekends with the exception that Lewis County may allow for operations on one Saturday per month upon the Applicant demonstrating to the County that an emergency need exists or that maintenance operations are necessary and cannot be normally performed during normal operating hours.~~

XIII. The staff report was prepared by Lynn Deitrick, Senior Project Planner - Lewis County Community Development Department Planning Division.

XIV. HEARING EXAMINER ACTION:

A. Approve the request

1. As submitted.
2. With the conditions stated in the staff report.
3. With the conditions stated in the staff report as modified by the Hearing Examiner (list):

B. Deny the request for the following reasons (list):

A. Continue item to a time certain.

XV. ATTACHMENTS:

A. Staff Report/Recommendation
   1. Special Use Permit Application dated February 11, 2011.

2. Hearing Examiner Findings of Fact and Conclusions of Law and Approval with conditions – Hearing Examiner No. 06-6-003 dated October 19, 2006.
3. Affidavit of Mailing – Notice of Public Hearing dated February 14, 2011.
4. Affidavit of Posting – Notice of Public Hearing dated February 11, 2011.
5. Mitigated Determination of Nonsignificance (MDNS) issued August 25, 2006.
6. Lewis County Health and Social Services memorandum dated February 14, 2011.
7. Lewis County Public Works comments received February 18, 2011.
8. Affidavit of Publication (The Chronicle) – Public Hearing Notice published February 16, 2011.

Attachment A.1

Amend SU05-00006

LEWIS COUNTY
COMMUNITY DEVELOPMENT DEPARTMENT

2025 NE Kresky Avenue
Chehalis, WA 98532-2626

(360) 740-1146
FAX: (360) 740-1245

SPECIAL USE PERMIT APPLICATION

Application fee: **$1,385** (up to 10 hours, over 10 hours - $100 per hour). Planning review fee: **$90**, SEPA fee with Legal Publication **$605**, Hearings Examiner fee **$600**, Environmental Health review fees **$390**. Public Works review fee **$200**. = **$3270 minimum submittal fee**. Other fees may apply: Additional fees may include but are not limited to permits for Environmental Health for septic and/or water and Public Works for stormwater and/or roads.
Amendments/Revisions: $695, plus Legal publication fee $250 and Hearing Examiner fee $600, EH review fees $390, PW'S review fee $200. Additional fees may include but are not limited to permits for Environmental Health for septic and/or water and Public Works for stormwater and/or roads.

FOR OFFICE USE ONLY:
Application Number: SU05-00006 Application Date: 2/24/2011
Permit Technician: Ave Date Distributed:

1. **PROJECT NAME:** _____

2. **APPLICANT:**
Name: Winston Quarry Inc
Address: 269 Winston Creek Rd
Mossyrock, Wa 98564
Telephone: ~~Home~~ office (360) 985-0487 Work cell (360) 520-7090
E-Mail: ~~winstonquarryinc@live.com~~ BartLyons@live.com

3. **PROPERTY OWNER (If Other Than Applicant, proof of lease agreement or authorization must be attached):**
Name: Same
Address: _____
Telephone: Home (____)_____ Work (____)_____
E-Mail: _____

4. **SURVEYOR OR ENGINEER:**
Name: N/A
Address: _____
Telephone: Home (____)_____ Work (____)_____
E-Mail: _____

5. **PROPERTY LOCATION:**
SE ¼, Section 21, Township 12 North, Range 2E, WM
TAX PARCEL NUMBER(S): 028751-033-000, 028751-035-000, 028751-014-000, 028751-027-000, 028751-006-000, 028769-018-000, 028769-001-001
SITE ADDRESS: 269 Winston Creek Rd Mossyrock Wa

6. **BRIEF DESCRIPTION OF THE PROPOSAL:** To change our special use permit to allow Hours of Operations to be flexible due to the demand of the up coming Ritchie Bro's Project. Would also be willing to give Notice to Adj. Prop. Owners 24 hr. Advance Operating out of Normal Hours

Total number of Employees: 6 Number of employees who live on site: 0

Days and Hours of Operation: 7 days per week, 24 hrs per day if needed For Projects.

7. **WATER SUPPLY:**
Existing Source: Not applicable - see Special

Proposed Source: Use Permit # SU05-0000

8. **SEWAGE DISPOSAL:**
Existing Method: Not Applicable - See Special

Proposed Method: Use Permit # SU05-00006

9. **ACCESS:**
Existing Access: Not Applicable - See Special

Proposed Access: Use Permit # SU05-00006

10. **SITE CHARACTERISTICS:**
Total Size of Development Site: 38.2 Acres

Please list all existing (non-residential) buildings and the square footage of each:

Not Applicable - see Special Use Permit # SU05-00006

Please list all proposed (non-residential) buildings and the square footage of each:

Not Applicable - see Special Use Permit # SU05-00006

Total square footage of impervious surface (paved, covered, built on, gravel, etc.):

Existing: NA Proposed: NA

Proposed number of dwelling units: NA

11. **VEHICLES AND TRAFFIC:**
How many vehicle trips will be generated daily to and from the site by the proposed use? Please include trips by employees, customers, delivery trucks, etc.

Not Applicable - see Special Use Permit #SU05-0000

How will these trips be distributed by mode and time of day?

Not Applicable - see Special Use Permit #SU05-00006

How many parking spaces will be provided?

12. **ADJACENT PROPERTIES:**
What provisions have been made to make the development compatible with the appearance and character of the surrounding area?

Cleaned up old slash from logging Bought and cleaned up old Salvage from Roger Brown, and purchased, Mrs Danon McMahon's properties,

What provisions have been made to safeguard the adjoining properties against any detrimental effects caused by the development?

ALL OPERATIONS are CONSISTENT with EXISTING SUP.

13. **SUPPLEMENTAL INFORMATION:**
All of the information listed below is required for a complete application. If you are unable to provide any of this information, or believe that it is not applicable to your project, please provide an explanation of why it has not been included. Please attach and label the following information to your application for submittal:

1. Legal descriptions of all the property involved in the proposal.
2. Detailed summary identifying all uses proposed for the site, including direct and accessory uses. All potential uses should be identified because approval of the project will be limited to those uses documented in the application materials and maps. Other uses will be prohibited.
3. A list of all property owners within 500 feet of the development site, and two sets of addressed, stamped envelopes for each.
4. A map or series of maps drawn at a scale of 1"=100' which show:
    a. The boundaries of the designated area.
    b. Boundaries of individual ownerships, or leasehold interests.
    c. Dedicated rights of ways or easements over, across, or under the property to be reviewed for approval.
    d. Existing roads, highways, and driveways abutting the site and within 500 feet of the site, and the principal access from the site to the nearest arterial or state highway.
    e. Property ownerships within 500 feet of the site.
    f. Wells within the development area or within 500 feet of the boundary of the site which are used for domestic use or identified through well log or water right records.
    g. A general identification and location of critical areas on the site or within 500 feet of the site and the identification of all Type 1, 2, and 3 streams under WDF&W criteria, and any streams or water bodies subject to jurisdiction under Chapter 90.58 RCW, the State Shoreline Management Act.
    h. The location and height of all existing and proposed structures and their square footage: houses, sheds, garages, barns, fences, culverts, signs, storage tanks, exterior lighting, outdoor storage areas, parking areas, loading zones, etc.
    i. North arrow, scale, date, site address and directions to the site.
5. SEPA Environmental Checklist
6. Soils report, as required by the Lewis County Sanitary Code, LCC 8.40 and 8.41, if new or altered on-site sewage systems are proposed.
7. Letters of service indicating that the proposal will be served by: police, fire district, and refuse disposal. If connection to a municipal or rural water and/or sewer system is proposed a letter of service is required from those providers. If dwelling units are proposed a letter of service is also required from the local school district.
8. Additional materials may be required, depending on the specific project, pursuant to LCC 17.115 (Special Use Permits) and other applicable county regulations.

14. **SIGNATURES**
I/We certify that all of the information contained in, and attached to, this application is true to the best of my/our knowledge. Additionally, I/We certify that I/We have read and understand the limitations and conditions of Lewis County Code, especially Chapter 17.115 (Special Use Permits), and agree to comply with all conditions of approval.

SUBSCRIBED AND SWORN TO BEFORE ME THIS 11 DAY OF Feb, 2011.

PATRICIA A WEIHER NOTARY PUBLIC STATE OF WASHINGTON COMMISSION EXPIRES 6-29-14

Patricia A Weiher

Notary Public in and for the State of Washington

My office expires: 6/29/14

Applicant is requesting Modification of Items 31, 32 to allow operations to run additional shifts as needed

Hearings Examiner's Findings

Barb Yagen

2-11-11

PERMISSION TO ENTER

2-14-11
Date

Lewis County Community Development Department
Lewis County Health & Social Services (Environmental Health)
2025 NE Kresky Avenue
Chehalis, WA 98532

I understand that County regulations require owner permission for County personnel to enter private property to conduct permit processing, review and inspections. I also understand that my failure to grant permission to enter, or an inability to contact me for prior notification of the time and date of inspection entries, may result in denial or withdrawal of a permit or approval.

Applications have been submitted for the following services:

1) SUP; 2) _____; 3) _____;
(Enter Type of Permit – i.e., building, septic, etc., - include all that apply)

which may require on-site permit processing, review and inspection by employees of the Community Development Department, Lewis County Environmental Services or Public Works for the property at:

_____; and See Attached Sht A
(site address/location) (tax parcel number)

By my signature below, permission is granted for representative(s) of the Community Development and Public Health Departments (Planning, Environmental, and Building sections) to enter and remain on and about the property for the sole purpose of processing such permits and performing required inspections and/or reviews.

By my signature below, I certify that I am either the current legal owner of this property or their authorized representative. With this document I take full responsibility for the lawful action that this document allows.

Prior notification of the date of inspection(s) will take place is:

[X] Not required [ ] Required: - ( ) _____ - _____ (Must provide phone number where applicant/representative can be reached)

Bert Lyons
Name as listed on Application
(Please Print)

Bert Lyons
Signature

269 Winston Crk Rd
Mailing Address of Signatory (Street / P.O. Box)

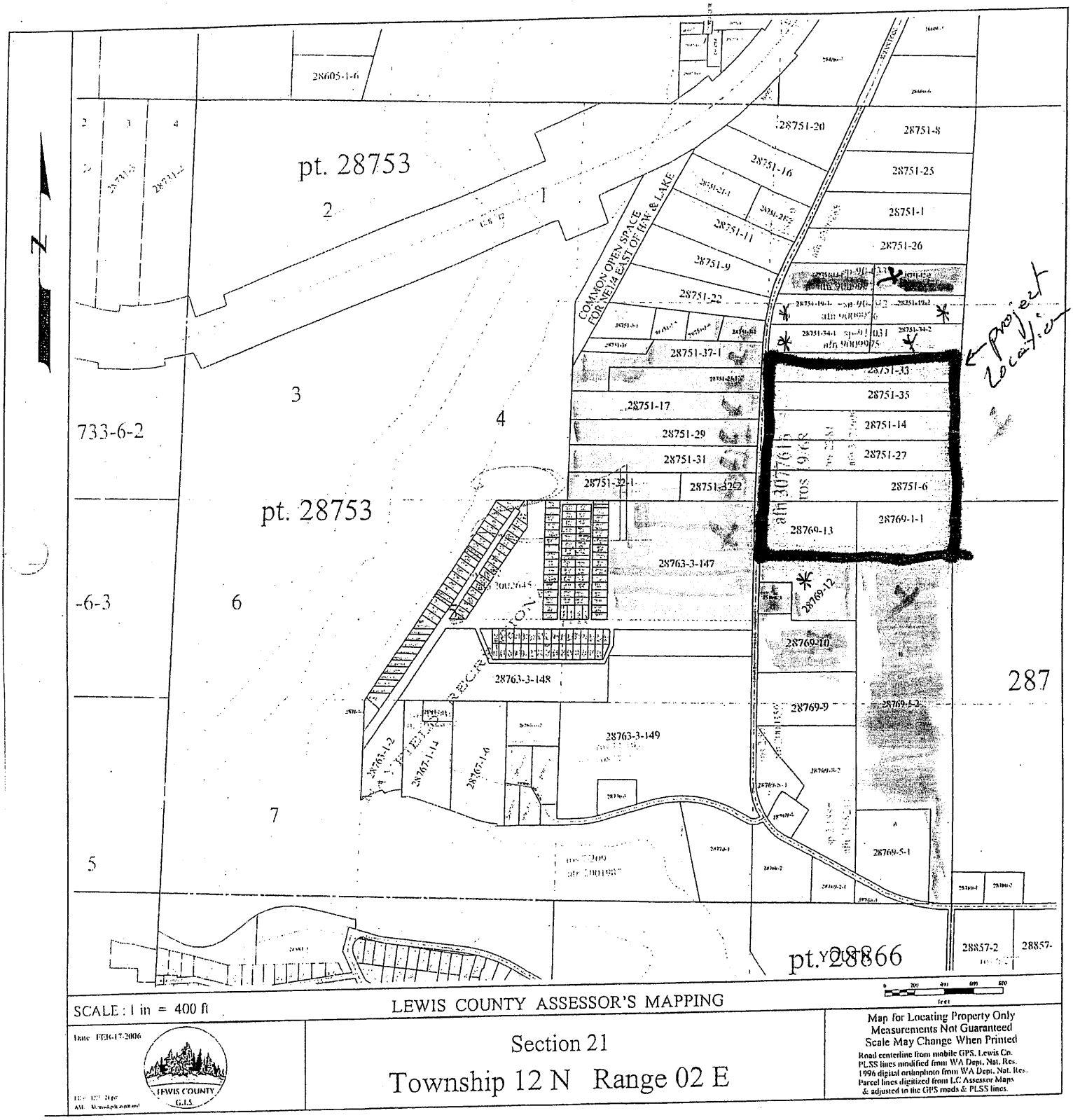
Mossrock WA 98564
City, State, Zip

_____
Name of individual signing this document
(☐ **Property Owner or** ☐ **Authorized Agent**)
(Please Print)

* OWNED BY APPLICANT

Dc Notes

_ PROPERTY OWNERS NOTIFIED



SCALE : 1 in = 400 ft

LEWIS COUNTY ASSESSOR'S MAPPING

Date: FEB-17-2006

LEWIS COUNTY G.I.S.

Section 21

Township 12 N Range 02 E

Map for Locating Property Only
Measurements Not Guaranteed
Scale May Change When Printed

Road centerline from mobile GPS, Lewis Co.
PLSS lines modified from WA Dept. Nat. Res.
1996 digital orthophoto from WA Dept. Nat. Res.
Parcel lines digitized from LC Assessor Maps
& adjusted to the GPS roads & PLSS lines.

BEFORE THE LEWIS COUNTY HEARINGS EXAMINER

IN RE:	HEARING NO. 06-6-003
WINSTON QUARRY, INC.,	FINDINGS OF FACT AND CONCLUSIONS OF LAW
Applicant.	

BACKGROUND

This matter came on for public hearing at 9:00 a.m. on October 17, 2006, before the Lewis County Hearing Examiner for the purpose of reviewing the application by Winston Quarry, Inc./Bart Lyons (the "Applicant") for a special use permit to expand an existing small surface mine beyond its present exempt level. More specifically, the Applicant seeks to expand this quarry to 38.2 acres for the extraction and processing of basalt.

Although Mr. Lyons was present during the hearing the Applicant was represent by Skip Urling of Ecological Land Services. Lewis County was presented by its planner, Kiernen Lien. Approximately twenty members of the public were present although most of these individuals were experts or otherwise connected with the Applicant.

The public hearing commenced with a brief description of the application by Mr. Lien. Mr. Lien's testimony was consistent with his earlier staff report submitted in advance of the public hearing. As noted in the staff report Lewis County recommends approval of the expansion of the quarry subject to several conditions.

The quarry is located at 269 Winston Creek Road, less than a mile south of the Highway 12/Winston Creek Road interchange. The site is zoned RDD-5. Adjoining properties to the east are zoned forest resource land while adjoining properties to the north, west and south are zoned RDD-5 or RDD-10. A short distance west of the property is the more intensely zoned Lake Mayfield Village and Resort. As noted by Mr. Lien, the application has undergone SEPA review and a Mitigated Determine of Non-Significance (MDNS) was issued on August 29, 2006. Although comments were received in response to the MDNS no appeals were made.

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Attachment A.2

A Critical Area and Resource Land (CARL) review was also undertaken as part of the application. This review disclosed that there are forest resource lands adjoining the property to the east. It also disclosed that there is a wetland on the site located in its northwest corner. Mr. Lien notes that there is adequate critical areas protection and buffering as part of the proposed use.

There is presently located on the site a small quarry operation consisting of less than three acres. Because of its small size the present operation is not regulated by the County's special use regulations nor by the State mining regulations. The proposed expansion of the quarry triggers both the need to have a County special use permit as established under LCC 17.115, and to meet all requirements imposed by the State and other regulators for mining and subsequent reclamation.

The requested special use permit is only one of many permits the Applicant will be required to obtain before expanding operations. The Applicant must also obtain a reclamation permit from the State, a stormwater permit, an approved septic design, and an approved Class B well. In addition, the Applicant must obtain an NPDES sand and gravel permit, and approval from the air pollution authorities.

Following Mr. Lien's testimony Skip Urling of Ecological Land Services spoke on behalf of the Applicant. Mr. Urling described how quarry operations would commence at the existing quarry area near the top of the property and work their way downhill to the west, creating a large bowl. The proposed well for the site would be located in the southeast corner with a 100 foot protected radius. The septic system would be located near the existing scale shack. The stormwater system would be located nearby and would drain to the west (away from wetlands) and under Winston Creek Road.

Mr. Urling further testified that the Applicant has a solid track record for responsible performance of the existing, smaller quarry. Mr. Urling presented documents proving regular

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and proper maintenance of the site to control dust. He also explained that the expanded use would not increase the size of the operations but merely allow the existing quarrying process to be expanded to the rest of the site.

Following Mr. Urling's testimony Edward Coulter of Northwest Energetic Services testified relating to the blasting activities on-site. Mr. Coulter explained how there had been seven recent blasts on the site and that these blasts were well within allowable limits and that future blasting should not have a significant impact on adjoining properties.

Roy Garrison of Ecological Land Services next testified regarding the reclamation process for the site, and the various requirements imposed by DNR for the quarry design, road system and setbacks from adjoining uses.

The final witness for the Applicant was Robert Balmelli, a local engineer. Mr. Balmelli testified to the stormwater design and how this design would control peak water events, thereby improving the present arrangements for the discharge of stormwater onto adjoining properties.

Following the Applicant's witnesses the hearing was open to the public. The only person to come forward was a neighbor, Danon McMahan. Mrs. McMahan's property abuts the site to the south. Mrs. McMahan had earlier provided written comments in response to the SEPA review. Her testimony amplified comments made in her earlier letter. She explained how recent blasting had twice interrupted the flow of her well. Her efforts to contact the Applicant about this problem were not responded to. Mrs. McMahan also testified to the rapid growth of the quarry over the last few years and how this growth has interrupted the peace and enjoyment of her property, particularly the noise from the operation of trucks. She is concerned that the proposed use will expand even further the operation and the accompanying noise. She asks that operations be closely regulated and prohibited on weekends. She also notes that present stockpiles are located well within the proposed buffer.

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In response to Mrs. McMahan's testimony the Applicant offered to establish a seismograph on her property to determine the impacts of future blasting. They also agreed to limit operations on weekends but asked that some allowance be made to operate on Saturdays when an emergency existed or maintenance needed to be done.

The proposed use represents the classic conflict in our County between the interest of one landowner seeking to make the fullest possible use of his property and the interest of adjoining neighbors who wish to preserve their rural peace and quiet. These conflicts are unavoidable and can never be fully resolved. If the proposed use is allowed (as will occur in this case) it remains important to regulate that use so that other landowners are not injured in the process. The requested special use will be granted subject to the conditions requested by Lewis County (with slight adjustment to their condition 13) as well as several additional conditions that I am imposing, all set forth in the permit.

Based upon the foregoing I make the following:

FINDINGS OF FACT

1. The Applicant, Winston Quarry, Inc./Bart Lyons, requests a special use permit to expand an existing surface mine located at 269 Winston Creek Road.

2. The site is zoned RDD-5.

3. Lewis County staff recommends approval of the requested permit subject to certain conditions as contained in their staff report.

4. The SEPA Mitigated Determination of Non-Significance was issued on August 29, 2006. The MDNS has not been appealed.

5. County staff has undertaken a CARL review and has identified critical areas on or near the proposed site. Lewis County staff finds that all critical areas protection and buffers are in place as part of the proposal.

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6. A public hearing on the application was held on October 17, 2006 at 9:00 a.m. at the Lewis County Commissioner's Hearing Room. Comments were received from the Applicant and its expert witnesses. Comments were also received from one adjoining landowner, Danon McMahan, who testified in opposition to the proposed expansion.

7. The Applicant does not object to the recommended conditions of approval submitted by Lewis County with the exception that the Applicant proposes minor alteration to condition number thirteen. The Applicant proposes that this condition be modified so that the required vegetative buffer is allowed some time to be established.

8. The proposed activity will not require additional public services or facilities and is adequately serviced by public roads.

9. The proposed activity will not create excessive additional requirements at public cost for public facilities and service.

10. The road servicing the site (as modified by the proposal) is adequate for the anticipated traffic associated with the site and will not reduce the level of service below the minimum level adopted by the County. Additional traffic generated by the expanded operations will not reduce the level of service on Winston Creek Road or at the Winston Creek/Highway 12 interchange.

11. The proposed expansion will not result in the destruction, loss or damage of any natural, scenic or historic feature of major importance.

12. The proposal is consistent with all requirements for the protection of critical areas pursuant to Chapter 17.35 LCC.

13. The proposal will operate within the guidelines of the Department of Natural Resources reclamation permit and within the guidelines of the Department of Ecology concerning noise, dust, smoke, fumes, and odor. No glare will be produced.

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14. The proposed use is consistent with the supplemental requirements of Chapter 17.145 LCC.

Based upon the foregoing Findings of Fact the Hearing Examiner makes the following:

CONCLUSIONS OF LAW

1. The Hearing Examiner has jurisdiction over the parties and the subject matter.

2. The site is designated RDD-5 and the proposed use is consistent with that designation and meets the goals and requirements of the Growth Management Act.

3. The proposal shall operate within the guidelines of the Department of Natural Resource reclamation permit and within the guidelines established by the Department of Ecology.

4. The proposed use satisfies all criteria for special use as is set forth in LCC 17.115.

5. The proposed use is consistent with the supplemental requirements of LCC 17.145.

6. A special use permit should be granted subject to the conditions set forth in the permit.

DATED this 19 day of October, 2006.

Mark C. Scheibmeir
Lewis County Hearing Examiner

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BEFORE THE LEWIS COUNTY HEARINGS EXAMINER

IN RE:	HEARING NO. 06-6-003
WINSTON QUARRY, INC.,	SPECIAL USE PERMIT
Applicant.	

The Hearing Examiner having previously entered his Findings of Fact and Conclusions of Law now, therefore, the Applicant's request for a special use permit to expand an existing surface mine to 38.2 acres is **APPROVED** subject to the following conditions:

1. All phases of the proposed mining expansion shall comply with the requirements of the Lewis County Comprehensive Plan and Development Regulations.

2. The Applicant shall meet the minimum requirements of LCC Chapter 15.45, erosion and sediment control.

3. The project shall comply with all requirements of Seismic Risk Zone 3.

4. The Applicant shall obtain all other required local, state and federal permits and approvals.

5. The Applicant shall employ Best Management Practices for Water Quality prior to and during the project.

6. Discharge of petroleum or hazardous materials to any ditch, swale, or other non-impervious surfaced area, where migration to an aquifer is reasonably likely, is prohibited.

7. High intensity and special high intensity uses shall conform to the aquifer recharge areas element of the Lewis County Critical Areas, LCC 17.35.

8. All development shall comply with the conditions set forth in the Lewis County CARL review, CL05-00988.

9. The Applicant shall submit for a road approach permit for the project from Lewis County.

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10. All releases of oil, hydraulic fluids, fuels, other petroleum products, paints, solvents, and other deleterious materials must be contained and removed in a manner that will prevent their discharge to waters and soils of the state. The clean up of spills should take precedence over other work on site.

11. Coverage under the Natural Pollution Discharge Elimination System, (NPDES) and State Waste Discharge General Permit for Stormwater Discharges Associated with Construction Activities is required for construction sites which disturb an area of one acre or more and which have or will have a discharge of stormwater to surface water or a storm sewer.

12. A fifty-foot setback from the mine property and from all abutting property shall be maintained for areas of direct cut or fill connected with resource extraction operations.

13. A twenty-five foot screen within the fifty-foot setback on the mine property, consisting of site obscuring vegetation, berms, or other methods to conceal the mine from public rights of way or property used for residential purposes shall be maintained. "Site obscurity and vegetation" shall consist of conifer and hardwood trees consistent with surrounding forested areas that, within a period of ten years from the date of the permit, shall achieve site obscuring height.

2016

14. A two hundred foot setback shall be maintained between any mining activity and any existing structure occupied for sleeping or eating purposes, but not including accessory structures such as barns or outbuildings, existing at the date of application.

15. Blasting activities shall be conducted so that ground vibrations comply with all state laws about peak particle velocity, air pressure, and other state requirements of the Office of Surface Mining U.S. Department of Interior, 1987 ed., Explosives: WAC 296-52-493, Part F.

16. The improvements to the quarry's access identified in the Traffic Analysis conducted by CTS Engineers, dated June 6, 2006, shall be implemented.

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17. Reclamation of the site shall be in accordance with Washington Department of Natural Resources surface mining reclamation permit.

18. All proposed activities shall be consistent with the creation of new surface mining areas or expansion of the surface mining areas subject to LCC Chapter 17.115.030(14).

19. Noise levels shall comply with state maximum permissible noise levels as outlined in WAC 173-60-040.

20. A consistent dust abatement program shall be approved, implemented and maintained during all hours of mining operations. This program shall include the mining site and access roads to reduce any impacts to adjacent properties as required by LCC 17.115.050(c).

21. Buried tanks of any petroleum or hazardous materials shall be prohibited unless the tanks are double-walled and equipped with a leakage monitoring systems. Installation of the system shall be certified by the Property owner or his/her agent. Placement of any buried tanks shall be undertaken only when approval is granted by Lewis County, Environmental Services Division.

22. Oil-water separators shall be required for impervious surface areas 5,000 square feet or larger.

23. All development must comply with the requirements of Seismic Risk Zone 3.

24. The subject property is adjacent to a designated Forest Resource Land. All structures shall maintain a minimum setback of 150 feet from property lines, except for structures not requiring building permits, and 200 feet for all wells, and non-exempt uses and activities in LCC 17.30.440-.480.

25. All development shall conform to the requirements of the RDD Zoning District per LCC Title 17, Zoning.

26. The proposed activity is of a high intensity use and shall comply with LCC 17.35, Critical Areas.

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27. All best management practices (BMP's) for erosion and sediment control shall be implemented for all related mining activities.

28. The Applicant shall implement the conditions for development for the CARL review, CL05-00988.

29. The Applicant shall obtain an approved Class B Public Water Supply.

30. The Applicant shall obtain an approved septic disposal system.

31. Operations shall not occur prior to 7:00 a.m. nor after 5:00 p.m., Monday through Friday.

32. Operations shall not occur on weekends with the exception that Lewis County may allow for operations on one Saturday per month upon the Applicant demonstrating to the County that an emergency need exists or that maintenance operations are necessary and cannot be normally performed during normal operating hours.

(33) The Applicant shall install a seismograph on the property of Danon McMahan for the purpose of determining the seismic impact to Mrs. McMahan's property from each blasting event. The Applicant will advise Mrs. McMahan and the County of the results of these seismograph tests.

34. Before the Applicant is allowed to commence operations Lewis County shall first inspect the site and determine that there are no present operations within the designated buffer areas. Any operations found within the buffer areas shall be removed and the buffer restored prior to the commencement of operations.

35. The Applicant shall, at all times, have a designated representative who shall be available to respond to all questions and concerns of adjoining landowners and the County. The designated representative shall respond to all such questions or concerns within twenty-four hours of contact. The initial designated representative for the Applicant is Bart Lyons.

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CHEHALIS, WASHINGTON 98532
Phone: 360-748-3386/Fax: 748-9533

DATED this 19 day of October, 2006.

Mark C. Scheibmeir
Lewis County Hearing Examiner

LEWIS COUNTY HEARING EXAMINER
299 N.W. CENTER ST. / P.O. BOX 939
CHEHALIS, WASHINGTON 98532
Phone: 360-748-3386/Fax: 748-9533

AFFIDAVIT OF MAILING

I, Lynn Deitrick, representing Lewis County, declare as follows:

1. I am a citizen of the State of Washington, over the age of eighteen years.

2. On the 14th day of February 14, 2011, I mailed a Notice of Public Hearing, a copy of which is attached hereto, regarding the Winston Creek Quarry revision to hours of operation -Special Use Permit Application, File No. SUP05-00006, to each of the persons on the attached mailing list.

3. I declare under penalty of perjury under the laws of the State of Washington that the foregoing is true and correct.

Dated at Lewis County, Washington, this 14th day of February 2011.

Lynn Deitrick

Sign Name Here

Lynn Deitrick

Print Name Here

Subscribed and sworn to before me this 14 day of February, 2011.

Donna P. Olson

NOTARY PUBLIC in and for the State of Washington, residing at: Winlock, WA

My commission expires: 1-22-14

Notary Public
State of Washington
Donna P Olson
Commission Expires 1-22-14

S:\COMMUNITY DEVELOPMENT\Division, Planning\PLANNERS\Deitrick\Special Use Permit\2011\SU05-00006 Winston Cr Quarry\Affidavit of Mailing - Hearing Notice Feb 14, 2011.doc

Attachment A.3

LEWIS COUNTY COMMUNITY DEVELOPMENT DEPARTMENT NOTICE OF

PUBLIC HEARING NOTICE
Before the
LEWIS COUNTY HEARING EXAMINER

PROJECT NAME: Winston Creek Quarry - Special Use Permit Revision

FILE NUMBERS: SU05-00006, SEP05-0065, CL05-00988

PROPOSAL: Revision to the Special Use Permit approved by the Lewis County Hearing Examiner October 19, 2006 (Hearing Examiner No. 06-6-003). The applicant Bart Lyons proposes a change to the hours of operations to accommodate additional shifts as needed. The current operation consists of an approximately 38.2 acre surface mine for the extraction and processing of rock. The existing quarry activities shall comply with all original permit requirements with the exception of the applicants requested revision to the hours of operation (Condition 31 and 32 of the Hearing Examiner decision) if approved.

LOCATION: The project is located at 269 Winston Creek Road, approximately 0.75 miles south of US Highway 12. Tax Parcel Numbers 028751-033-000, 028751-035-000, 028751-014-000, 028751-027-000, 028751-006-000, 028769-013-000, and 028769-001-001, Section 21, T 12 N, R 2 East, W.M., Lewis County, Washington.

The site is zoned as Rural Development District 1-5, "RDD-5".

APPLICANT: Bart Lyons
Winston Quarry, Inc.
269 Winston Creek Rd.
Mossyrock, WA 98564

The Lewis County Community Development Department issued a Mitigated Determination of Nonsignifcance (MDNS) on August 29, 2006. No change is proposed to the MDNS. This information is available to the public on request.

The PUBLIC HEARING WILL BE HELD: February 28, 2011, beginning at 1:30 pm, at the Lewis County Courthouse, 351 NW North Street, Hearing Room, Second Floor, Chehalis, WA 98532

The project file is available for public review at the community development department located at 2025 NE Kresky Avenue between the hours of 8 a.m. and 4:00 p.m. Monday through Friday. For further information, contact Lynn Deitrick, AICP, Senior Project Planner at (360) 740-1146

(Pat Anderson // Publish Chronicle and East County Journal on February 16, 2011)

Rayonier Timberlands
3033 INGRAM ST
QUIAM, WA 98550

Benito Lazo, et al.
2120 NE 158TH PL
PORTLAND, OR 97230

Harry Flynn
5110 CARTER AVE
SAN JOSE, CA 95118-2114

HO

Steven and Danita Kynaston
PO BOX 2254
LONGVIEW, WA 98632-8329

John & Lorraine Wollam
PO BOX 2616
BATTLE GROUND, WA 98604

Buehler Family Trust
225 WINSTON CREEK RD
MOSSYROCK, WA 98564

Carmen Morin
PO BOX 552
MOSSYROCK, WA 98564-0552

Willard Youn
PO BOX 415
CHEHALIS, WA 98532

Kerry Libby et al.
PO BOX 93
MOSSYROCK, WA 98564

Daniel Hamann
PO BOX 263
CENTRALIA, WA 98531

Michael Mussman
2629 FIELD ST
LONGVIEW, WA 98632-2012

Dana & Diana Wolfe
PO BOX 160
MORTON, WA 98356

Rob Winston Creek

The Lloyd Rev Trust DTD 8/16/04
6106 NE 78TH ST 25+.2
VANCOUVER, WA 98665

Leonard & Geraldine Ryerson
Family Trust
407 W REYNOLDS AVE
CENTRALIA, WA 98531

Bradley & Connie Hoggat
PO BOX 128
KALAMA, WA 98625

Mayfield Kamper Klub Inc.
PO BOX 161
SALKUM, WA 98582

Michael Myhre et al.
PO BOX 394
ONALASKA, WA 98570-0394

20.34

Danon McMahan
301 B WINSTON CREEK RD
MOSSYROCK, WA 98564

Donald Rico
PO BOX 321
MOSSYROCK, WA 98564-0321

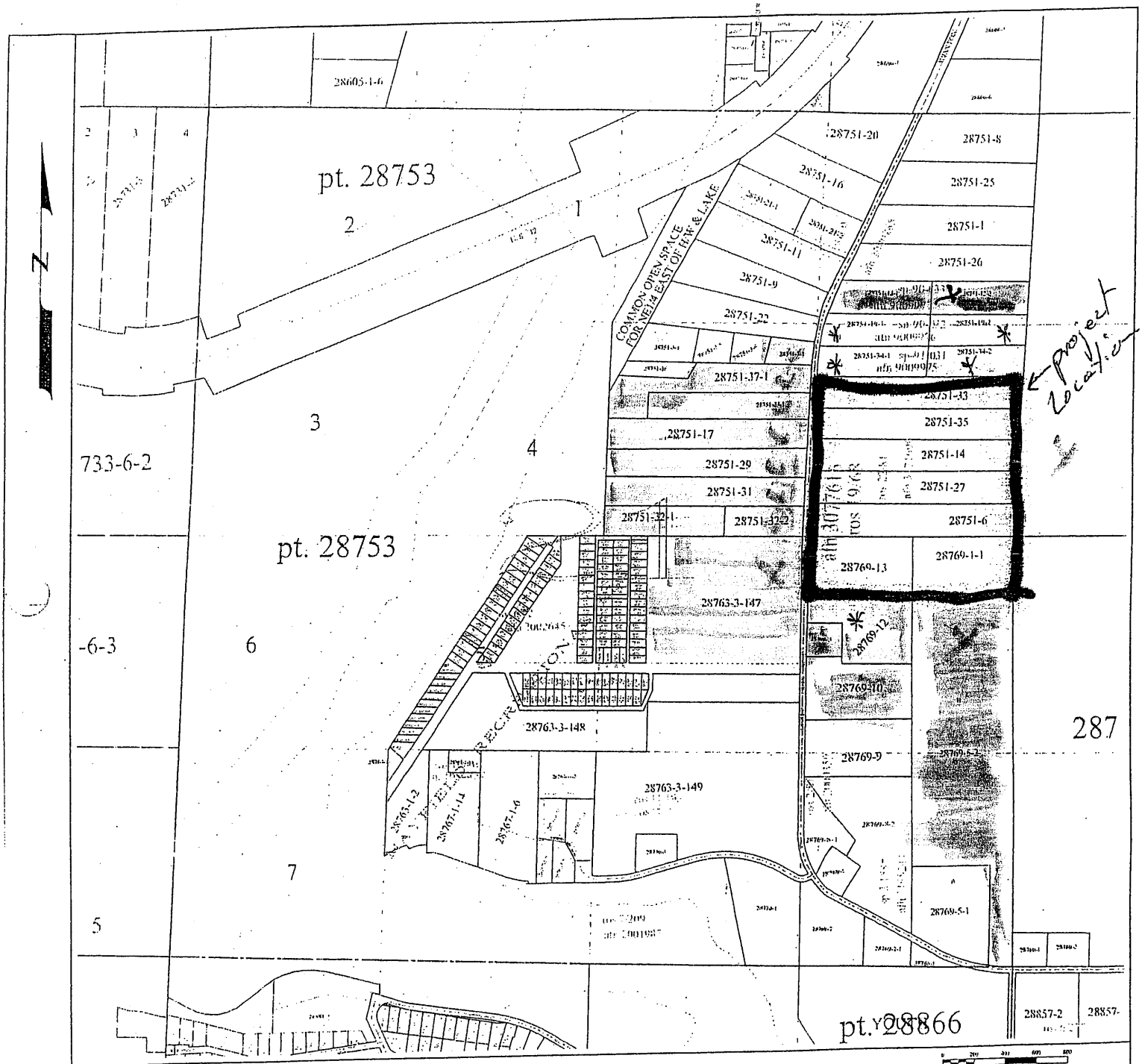
Delmer Yost
301 WINSTON CREEK RD
MOSSYROCK, WA 98564-9612

Bradley & Doretta Erven
PO BOX 208
SILVER CREEK, WA 98585-9704

Applicant:
Bart Lyons
Winston Quarry, Inc.
269 Winston Creek Rd.
Mossyrock, WA 98564

* OWNED BY APPLICANT

De Notes
Property Owners Notified



SCALE : 1 in = 400 ft

LEWIS COUNTY ASSESSOR'S MAPPING

Date FEB-17-2006

LEWIS COUNTY G.I.S.

Section 21

Township 12 N Range 02 E

Map for Locating Property Only
Measurements Not Guaranteed
Scale May Change When Printed

Road centerline from mobile GPS, Lewis Co.
PLSS lines modified from WA Dept. Nat. Res.
1996 digital orthophoto from WA Dept. Nat. Res.
Parcel lines digitized from LC Assessor Maps
& adjusted to the GPS roads & PLSS lines.

AFFIDAVIT OF POSTING OF PUBLIC HEARING

The undersigned does hereby certify that he/she posted a notice of Public Hearing for the Winston Creek Quarry revision to hours of operation - Special Use Permit (SUP05-00006).

The signatory posted notice of the public hearing for the proposed revision to the Special Use Permit on February 11, 2011, pursuant to applicable codes. Posted in a conspicuous manner on the property upon which the substantial development is proposed at the following location:

At the entrance to the subject site fronting on Winston Creek Road.

Dated at Lewis County, Washington, this 14 day of February, 2011.

Lynn Dietrick
Sign Name Here

Lynn Dietrick
Print Name Here

Subscribed and sworn to before me this 14 day of February, 2011.

Donna P. Olson
NOTARY PUBLIC in and for the State of Washington, residing at: Winlock, WA

My commission expires: 1-22-14

Notary Public
State of Washington
Donna P Olson
Commission Expires 1-22-14

Attachment A.4

LEWIS COUNTY COMMUNITY DEVELOPMENT DEPARTMENT NOTICE OF

PUBLIC HEARING NOTICE
Before the
LEWIS COUNTY HEARING EXAMINER

PROJECT NAME: Winston Creek Quarry - Special Use Permit Revision

FILE NUMBERS: SU05-00006, SEP05-0065, CL05-00988

PROPOSAL: Revision to the Special Use Permit approved by the Lewis County Hearing Examiner October 19, 2006 (Hearing Examiner No. 06-6-003). The applicant Bart Lyons proposes a change to the hours of operations to accommodate additional shifts as needed. The current operation consists of an approximately 38.2 acre surface mine for the extraction and processing of rock. The existing quarry activities shall comply with all original permit requirements with the exception of the applicants requested revision to the hours of operation (Condition 31 and 32 of the Hearing Examiner decision) if approved.

LOCATION: The project is located at 269 Winston Creek Road, approximately 0.75 miles south of US Highway 12. Tax Parcel Numbers 028751-033-000, 028751-035-000, 028751-014-000, 028751-027-000, 028751-006-000, 028769-013-000, and 028769-001-001, Section 21, T 12 N, R 2 East, W.M., Lewis County, Washington.

The site is zoned as Rural Development District 1-5, "RDD-5".

APPLICANT: Bart Lyons
Winston Quarry, Inc.
269 Winston Creek Rd.
Mossyrock, WA 98564

The Lewis County Community Development Department issued a Mitigated Determination of Nonsignifcance (MDNS) on August 29, 2006. No change is proposed to the MDNS. This information is available to the public on request.

The PUBLIC HEARING WILL BE HELD: February 28, 2011, beginning at 1:30 pm, at the Lewis County Courthouse, 351 NW North Street, Hearing Room, Second Floor, Chehalis, WA 98532

The project file is available for public review at the community development department located at 2025 NE Kresky Avenue between the hours of 8 a.m. and 4:00 p.m. Monday through Friday. For further information, contact Lynn Deitrick, AICP, Senior Project Planner at (360) 740-1146

(Pat Anderson // Publish Chronicle and East County Journal on February 16, 2011)

LEWIS COUNTY – STATE ENVIRONMENTAL POLICY ACT
SEPA DETERMINATION
MITIGATED DETERMINATION OF NONSIGNIFICANCE

LEAD AGENCY: Lewis County Community Development Department

PROJECT PROPONENT: Bart Lyons
Winston Quarry, Inc.
PO Box 518
Onalaska, WA 98570

PROJECT DESCRIPTION: Development and operation of an approximately 38.2 acre surface mine for the extraction and processing of basalt.

PROJECT LOCATION: The proposed project is located at 269 Winston Creek Road, approximate 0.75 miles south of Us Highway 12, on tax parcels 028751-033-000, 028751-035-000, 028751-014-000, 028751-027-000, 028751-006-000, 028769-013-000, and 028769-001-001. The proposed project is located in the SE ¼ NE ¼ NE ¼, SE ¼ Section 21, T 12 N, R 2 East, W.M., Lewis County, Washington. The site is zoned as Rural Development District 1-5, "RDD-5".

S/T/R: SE ¼ NE ¼ NE ¼, SE ¼ Section 21, T 12 N, R 2 East, W.M., Lewis County, Washington.

TAX PARCEL NUMBERS: 028751-033-000, 028751-035-000, 028751-014-000, 028751-027-000, 028751-006-000, 028769-013-000, and 028769-001-001

Threshold Determination: Lewis County, acting as the SEPA lead agency for this proposal, has determined that it WILL NOT have a probable significant adverse impact on the environment under RCW 43.21C.030(2)(c). This decision was made after review of a completed environmental checklist and other information on file with the lead agency. This information is open to the public on request.

Conditions/Mitigating Measures:

1. **The applicant shall meet the minimum requirements of LCC Chapter 15.45, erosion** and sediment control.
2. The project shall comply with all requirements for Seismic Risk Zone 3.
3. The applicant shall obtain all other required local, state and federal permits and approvals.
4. The applicant shall employ Best Management Practices for Water Quality prior to and during the project.
5. Discharge of petroleum or hazardous materials to any ditch, swale, or other non-pervious surfaced area, where migration to an aquifer is reasonably likely, is prohibited.
6. High intensity and special high intensity uses shall conform to the aquifer recharge areas element of the Lewis County Critical Areas, LCC. 17.35.
7. All development shall comply with the conditions set forth in the Lewis County CARL review, CL05-00988.
8. The applicant shall submit for a road approach permit for the project from Lewis County.
9. All releases of oils, hydraulic fluids, fuels, other petroleum products, paints, solvents, and other deleterious materials must be contained and removed in a manner that will prevent their discharge to waters and soils of the state. The clean up of spills should take precedence over other work on site.
10. Coverage under the national Pollution Discharge Elimination System, (NPDES) and State Waste Discharge General Permit for Stormwater Discharges Associated with Construction Activities is required for construction sites which disturb an area of one acre or more and which have or will have a discharge of stormwater to surface water or a storm sewer.
11. A fifty-foot setback from the mine property and from all abutting property shall be maintained for areas of direct cut or fill connected with resource extraction operations.
12. A twenty-five foot screen within the fifty-foot setback on the mine property, consisting of site obscuring vegetation, berms, or other methods to conceal the mine from public rights of way or property used for residential purposes shall be maintained.
13. A two hundred foot setback shall be maintained between any mining activity and any existing structure occupied for sleeping or eating purposes, but not including accessory structures such as barns or out building, existing at the date of application.
14. Blasting activities shall be conducted so that ground vibrations comply with all state laws about peak particle velocity, air pressure, and other state requirements of the Office of Surface Mining U.S. Department of Interior, 1987 ed., Explosives: WAC 296-52-493, Part F.
15. The improvements to the quarry's access identified in the Traffic Analysis conducted by CTS Engineers, dated June 6, 2006, shall be implemented.

Responsible Official: Kernen Lien, Senior Planner
Lewis County Community Development
350 North Market Blvd.
Chehalis, Washington 98532-2626

Attachment A.5

Contact Person: Kernen Lien, Senior Planner
Lewis County Community Development
350 North Market Blvd.
Chehalis, Washington 98532-2626

Date of Issue: August 29, 2006

Kernen Lien, Environmental Review Official

[X] **There is no comment period for this Mitigated Determination of Nonsignificance (MDNS).**

[ ] **This DNS is issued under WAC 197-11-340(2); the lead agency will not act on this proposal for 14 days from the last date advertised.**

This Mitigated Determination of Nonsignificance may be appealed to the Lewis County Hearings Examiner from August 24, 2006 through September 12, 2006. You should prepare to make specific factual objections. Details regarding the appeal procedure may be obtained from the Contact Person.

STATE ENVIRONMENTAL POLICY ACT
ENVIRONMENTAL CHECKLIST FORM

Applicant/Sponsor: *Winston Quarry, Inc. /Bart Lyons* Date: *June 15, 2006*
Address: *PO Box 518, Onalaska, WA 98570*

Phone: *(360) 985-0487*

Project Name: *Winston Quarry*
Agency Requesting Checklist: *Lewis County*

A. BACKGROUND

1. Estimated date of completion of proposed action (including phasing, if applicable).

   Estimated 50 years from present.

2. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

   No.

3. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

   Wetland Delineation Report (Ecological Land Services, Inc.)
   Storm Drainage Report (RB Engineering, Inc.)
   Stormwater Pollution Prevention Plan (Ecological Land Services, Inc.)
   Traffic Analysis (CTS Engineers)
   Washington Dept. of Fish and Wildlife Habitats and Species Report and Dept. of Natural Resources Natural Heritage Program rare plant/high quality native ecosystem record search.

4. Do you know whether or not applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

   None are known.

5. List any governmental approvals or permits that will be needed for your proposal, if known.

Surface Mine Reclamation Plan	*Washington Dept. of Natural Resources*
NPDES Sand and Gravel General Permit	*Washington Dept. of Ecology*

New Source Permit	*Southwest Clean Air Agency*
Special Use Permit	*Lewis County*

6. Give a brief, complete description of your proposal including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposals. You do not need to repeat those answers on this page.

   The proposal consists of a hard rock quarry where mineral resources will be extracted and processed for construction purposes. The subject property consists of approximately 38.2 acres. Access to the site will be directly from Winston Creek Road.

7. Location of the proposal. Give sufficient information for a person to understand the precise location of your project, including a street address, if any, and Section, Township, and Range. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a site plan, vicinity map, and topographic map, if reasonably available.

   Tax Parcel #: *028751033000, 028751035000, 028751014000, 028751027000, 028751006000, 028769013000, 028769001001*

   SE 1/4 of the NE 1/4 and the NE 1/4 of the SE 1/4 of Section 21, Township 12 North, Range *2 East, W.M. Please see the site plan and vicinity map attached to the application.*

2 East KPL

B. ENVIRONMENTAL ELEMENTS

1. Earth

   a. General description of the site (Circle One):

Flat	Hilly	Mountainous
Rolling	(Steep Slopes)	Other: _____

   Excavation of the quarry has commenced into a prominent hill with sideslopes facing southeast, southwest, and northwest.

   b. What is the steepest slope on the site (approximate percent slope)?

   50 % to 100%

c. What general types of soils are found on the site (*for example: clay, sand, gravel, peat, muck*)? If you know the classification of agricultural soils, specify them and note any prime farmland.

The U.S.D.A. Soil Conservation Service, Soil Survey Of Lewis County Area, Washington (1980), describes soilsl on-site as Andic Xerumbrepts, steep and Galvin silt loam on slopes up to 8%.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

No.

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.

No filling is proposed as part of the mining activities. Cut-to-grade slopes will be mined-in and further shaped with application of stored subsoil and topsoil to create slopes and rooting medium suitable for re-vegetating the site for forestry. Please see the proposed mining and reclamation plan for details.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Erosion could occur along the actively mined sections where cut slopes have not yet been reclaimed. However, the site will be mined to direct any erosion of cut slopes toward the quarry floor and infiltration gallery.

g. About what percent of the site will be covered with impervious surfaces after project construction (*for example: asphalt or buildings*)?

Existing gravel roads on the site providing access to the active mine area cover approximately 1.75 acres, or approximately 4 percent of the subject property. An additional 1.6 acres, or approximately 4 percent of the subject property, is proposed to be developed as a product

storage area. This cumulative total of approximately 8 percent impervious surface contributing to surface runoff will decrease with time as mining consumes existing haul roads and soil storage acreage.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any.

Mining activity will take place such that any potential erosion from disturbance of native materials will be directed back into the active mining area. Stockpiles of topsoil or reject material reserved for reclamation will be located within or above the active quarry to capture any potential erosion from soil-storage areas. These stockpiles will be hydromulched and seeded with an erosion control mix of grasses to stabilize the piles and prevent wind erosion.

2. Air

a. What types of emissions to the air would result from the proposal (*i.e., dust, automobile, odors, industrial wood smoke*) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

No emissions will result from final reclamation. Dust emissions may occur from blasting and operating equipment (i.e. dozers, loaders, rock crushers, and haul trucks). Such equipment will utilize requisite emission control devices.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

No.

3. Water

a. Surface:

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal

streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

Yes. A wetland exists in the northwest portion of the property. Refer to ELS Wetland Delineation Report, August 22, 2005.

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

No mining or other disturbance will occur within the wetland or its buffer; however, product stockpiles and stormwater facilities will be located within 200 feet of the wetland.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

No fill or dredge materials will be placed in or removed from the wetland.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

No.

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

No.

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

No.

b. Ground:

1) Will groundwater be withdrawn, or will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.

A well will be installed in the southwest corner of the site for water needs at the scale house and for watering the haul roads and used at the crusher to prevent dust. Quantities withdrawn will be less than 5,000 gal/day. Excavation will not occur below a 20-foot distance of separation from local aquifers based on DOE well-log data (refer to Winston Quarry Reclamation Plan narrative). Any discharge to groundwater from the engineered detention wetpond will be monitored as per the requirements of the DOE Sand and Gravel General Permit.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (*for example: domestic sewage; industrial, containing the following chemicals.....; agricultural; etc.*). Describe the general size of the system, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

A small amount of sanitary waste water will be discharged to the ground from a septic system serving the scale house.

c. Water Runoff (including storm water):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

Runoff will be limited to stormwater from precipitation that will be directed to the mine floor where it will infiltrate or evaporate. Runoff collecting in ditches constructed on the upslope side of access roads will be directed to a monitored wetpond/detention facility near the entrance to the site (see Storm Drainage Report). The outfall from the wetpond is designed to discharge to a county road ditch with flow culverted underneath Winston Creek Road and thereafter

dispersed over flat topography to intermittent channels or a shallow aquifer indirectly tributary to Mayfield Lake.

2) Could waste materials enter ground or surface waters? If so, generally describe.

Waste material is not anticipated to reach groundwater (refer to the Winston Quarry Reclamation Plan narrative for summary of local well-log data). Sediment in stormwater that is not directed to the quarry floor will be captured in armored roadside ditches with rock check dams installed every 25 vertical feet. If ditches become sediment clogged, they will be reexcavated and the armor rock and check dams replaced. The outfall from the engineered detention wetpond is designated as a monitoring point for surface water discharge per the requirements of the Department of Ecology Sand and Gravel General Permit (application in process).

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any.

Surface-water runoff from the access road and stockpile areas will be directed (via the armored ditches) to the engineered wetpond/detention facility prior to discharge. Precipitation falling within the active mining area will be increasingly contained as mining progresses, and will infiltrate into the gallery constructed for that purpose (and expanded as necessary) within the quarry floor.

4. Plants

a. Check or circle types of vegetation found on the site:

X deciduous tree: alder, maple, aspen, other *red alder, big leaf maple*
X evergreen tree: fir, cedar, pine, other *Douglas fir, Western red cedar*
___ shrubs
___ grass
___ pasture *None.*
___ crop or grain *None*
___ wet soil plants: cattail, buttercup, skunk cabbage, other

___ water plants: water lily, eelgrass, milfoil, other
X__ other types of vegetation *Himalayan and trailing blackberry, lichens and mosses.*

b. What kind and amount of vegetation will be removed or altered?

Much of the property had been logged prior to commencement of mining activity. Remaining trees, re-sprouted shrubs and other regenerated vegetation within the mining footprint will be removed as excavation expands.

c. List threatened or endangered species known to be on or near the site.

None recorded per Washington Natural Heritage Program.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any.

As mining progresses, the site will be reclaimed with native trees with the goal of returning the site to timber production.

5. Animals

a. Circle any birds and animals which have been observed on or near the site or are known to be on or near the site:

Birds: hawk, heron, eagle, songbirds, other: r*ed-tailed hawk, crows, various songbirds.*
Mammals: deer, bear, elk, beaver, other: *black-tailed deer, elk, coyote, cougar.*
Fish: bass, salmon, trout, herring, shellfish, other: *None.*

b. List any threatened or endangered species known to be on or near the site.

A bald eagle nest is located approximately ½ mile to the southwest of the subject property, per Washington Department of Fish and Wildlife Habitats and Species Reports.

c. Is the site part of a migration route? If so, explain.

Pacific Flyway.

d. Proposed measures to preserve or enhance wildlife, if any.

As mining progresses, the site will be reclaimed for forestry and open space. Concurrent mining and reclamation will reduce the amount of area disturbed at any particular time, thus reducing the impact to wildlife. The existing wetland and buffer will remain undisturbed, as will vegetated areas in the southwest and northwest corners of the site.

6. Energy and Natural Resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

Petroleum products (diesel, gasoline) will power excavation and haul equipment and generators that power the processing equipment. Upon completion of reclamation, electricity only will be used to power the scale house.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any.

Not applicable.

7. Environmental Health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

Petroleum products are delivered to the site on an as-needed basis, eliminating the need for on-site storage tanks. Accidental fuel or oil spills are possible, but a spill control plan (SCP) is kept on-site and will be followed and revised as necessary throughout the life of the project

1) Describe special emergency services that might be required.

None.

2) Proposed measures to reduce or control environmental health hazards, if any.

The Spill Control Plan will remain in effect through project duration. Best management practices will be employed onsite to reduce the potential for accidental fuel or oil spills from occurring during equipment refueling. BMPs will also be used to quickly and completely clean up any spills consistent with the SCP and to remove any spill-contaminated materials to an approved disposal site.

b. Noise

1) What types of noise exist in the area which may affect your project (*for example: traffic, equipment, operation, other*)?

None.

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (*for example: traffic, construction, operation, other*)? Indicate what hours noise would come from the site.

Noise would be generated by mining equipment and associated processing equipment during work hours, typically 7:30 am to 4:30 pm. Hours may vary if public project contract specifications require nighttime operations. Blasting will generate short term noise during daylight hours -- anticipated to occur six times a year depending on production requirements.

3) Proposed measures to reduce or control noise impacts, if any.

Equipment will maintain requisite muffling devices. Rock crushing activity is screened by the mine highwall and existing vegetation.

8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties?

Adjacent properties include forestry, low density rural residential, and ranching.

b. Has the site been used for agriculture? If so, describe.

No.

c. Describe any structures on the site.

A scale house and truck scale have been placed near the site entrance on Winston Creek Road.

d. Will any structures be demolished? If so, what?

No.

e. What is the current zoning classification of the site?

Rural Development District 5

f. What is the current comprehensive plan designation of the site?

RDD Zoning 1 Dwelling per 5 Acres

g. If applicable, what is the current shoreline master program designation of the site?

Not applicable.

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

No.

i. Approximately how many people would reside or work in the completed project?

Four to five employees, no residents.

j. Approximately how many people would the completed project displace?

None.

k. Proposed measures to avoid or reduce displacement impacts, if any.

None.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any.

Several features are incorporated into the mining and reclamation plan to make the project compatible with the neighborhood. Dust will be abated through the use of water trucks on the internal haul roads and by the use of spray bar equipment on the crusher; crushing operations will be in compliance with the air quality permit issued for the crusher by the Southwest Clean Air Agency. Active mining and processing operations will be screened from view by natural topography with each lift of the mine. Traffic generated by the site will be minimal and should not affect traffic operations or safety on county roads or state highways. All equipment will operate with mufflers to reduce engine noise. Blasting will be employed several times per year to loosen the rock for extraction and processing. All neighboring properties will be notified the day before a blasting event and all blasting will be conducted by a licensed blasting contractor who will be responsible for compliance with the Department of Labor and Industry's "Safety Standards for the Possession and Handling of Explosives" (Chapter 296-52 WAC) to ensure that blasting operations do not result in off-site fly rock or ground vibrations above permitted levels.

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

None.

b. Approximately how many units, if any would be eliminated? Indicate whether high, middle, or low-income housing.

None.

c. Proposed measures to reduce or control housing impacts, if any.

Not applicable.

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

The scale house is approximately 12 feet tall.

b. What views in the immediate vicinity would be altered or obstructed?

None.

c. Proposed measures to reduce or control aesthetic impacts, if any.

The topography of the mine will obscure the active mine operations from view in the general vicinity of the project.

11. Light and Glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

Lighting will not normally be required. If construction contracts require evening operations, or if wintertime activities during shorter daytime hours should be necessary, lighting to meet Mining Safety and Health Administration standards will be installed.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

No.

c. What existing off-site sources of light or glare may affect your proposal?

None.

d. Proposed measures to reduce/control light or glare impacts, if any.

If lighting is required, all fixtures will be hooded and directed at the specific operation area to avoid the escape of glare onto adjacent properties.

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

There are no recreational activities in the immediate vicinity of the subject property. However, Mayfield Lake, which offers boating, fishing, and swimming, is nearby. A commercial campground is located south of the mine access road.

b. Would the proposed project displace any existing recreational uses? If so, describe.

No.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any.

None.

13. Historic and Cultural Preservation

a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

None are known.

b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

None are known.

c. Proposed measures to reduce or control impacts, if any.

None.

14. Transportation

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plan,if any.

The property is accessed via Winston Creek Road with a private haul road leading to the active mining area.

b. Is the site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

No.

c. How many parking spaces would the completed project have? How many would the project eliminate?

Six parking places are located near the existing scale house.

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).

No.

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

No.

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

Typical operations would occur between 7:30 am and 4:30 pm. Based on this typical workday, there would be approximately 225 daily vehicle trips, with as many as 20 vehicle trips during the morning and afternoon peak hours. Should contracts require expanding operating hours to those allowed by Lewis County Code 17.115.030.14 viii, the average daily traffic volumes would increase proportionately, but peak hour traffic would remain at 20 trips. Please refer to the June 6, 2006, Traffic Analysis (CTS Engineers) for additional detail.

g. Proposed measures to reduce/control transportation impacts, if any.

No measures will be necessary.

15. Public Services

a. Would the project result in an increased need for public services (*for example: fire protection, police protection, health care, schools, other*)? If so, generally describe.

No.

b. Proposed measures to reduce or control direct impacts on public services, if any.

No measures will be necessary.

16. Utilities

a. Circle utilities currently available at the site:

(Electricity)	(Telephone)
~~Natural Gas~~	~~Sanitary Sewer~~
Refuse Service	(Septic System)
Water	Other: _____

Electricity and telephone are available at the subject property access along Winston Creek Road.

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

No additional utilities are necessary for continued operations at this site. An on-site well and septic system will provide water for consumption and dust control and wastewater disposal.

C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature

6-22-06

Date

LEWIS COUNTY
HEALTH & SOCIAL SERVICES

Environmental Health
DIVISION

INTER-OFFICE MEMORANDUM

TO: Lynn Detrick

FROM: Sue Kennedy

DATE: February 14, 2011

SUBJECT: SUP11-0002
Winston Quarry Inc.

I have reviewed the above subject project and have the following comments:

This project required an approved Group B public water supply to serve the facility. This was a condition of the original SEP05-0065 and SUP05-00006, Condition # 29. To date this approval has not been completed. Recently, January 10, 2011, Lewis County conducted and approved a well site inspection however a Public Water System approval is still pending.

Attachment A.6

Lewis County Public Works

Application # SUP11-0002

RECEIVED
FEB 18 2011
LC Public Works

FEB 2011
Received
Community Development

Initial Review for SPECIAL USE PERMIT
ACCESS, ROADS & STORMWATER REQUIREMENTS
Interoffice Correspondence Use Only

PROJECT NAME: Winston Quarry Inc.

Access Review

☐ Incomplete for review* ☐ Access is adequate ☐ Access is inadequate
☐ Additional information is needed. See as noted below.
☒ Other /Notes Has Approved Road Approach permits to Winston Creek RD Access Numbers 05-0654, 05-0656
Reviewed by: [signature] Date 2-16-11

If application is deemed incomplete for Access Review, then it is incomplete for subsequent PW review, and will be returned to Community Development.

Road/Utilities Review

☐ Shall meet LC Road Development Standards ☐ Not needed
☐ Coordinate engineering plans with Stormwater Management requirements.
☐ Additional information is needed. See as noted below.
☒ Other /Notes N/A

Reviewed by: [signature] Date 2-16-11

Traffic Review

☐ Incomplete for review*
☐ TIA is needed per 12.60 LCC
☒ Traffic Impact Analysis (TIA) is not needed
☐ Other /Notes

Reviewed by: [signature] Date 2-19-11

Stormwater Review

☐ Incomplete for review*
☐ Stormwater management **is needed**. Engineered plans & analysis are needed per 15.45 LCC
☒ Stormwater management **is not needed**, but the following apply:
☐ Implement erosion and sediment control BMPs prior to construction
☐ Direct runoff from new impervious surfaces away from county road & keep 50' (min) long vegetated flow path.
☐ Other /Notes

Review by: [signature] Date 2/18/11

Other ReviewComments: NO SURVEY ISSUES.

By: [signature] Date 2/19/11

AFFIDAVIT OF PUBLICATION

STATE OF WASHINGTON } SS
COUNTY OF LEWIS

Amanda Curry, says that she is the legal clerk of

The Chronicle

a daily newspaper, which has been established, published in the English language, and circulated continuously as a daily newspaper in the City of Centralia, and in said County and State, and of general circulation in said county for more than six (6) months prior to the date of the first publication of the Notice hereto attached, and that the said Chronicle was on the 7th day of July 1941, approved as a legal newspaper by the Superior Court of said Lewis County.

And that the attached is a true copy and was published in regular issues (and not in supplement form) of said newspaper as Legal # 0220

once each day for a period of 1

consecutive day

commencing on the

16 day of February, 2011

and ending on the

16 day of February, 2011 and both dated inclusive, and that such newspaper was regularly distributed to its subscribers during all of said period. That the full amount of the fee charged for the foregoing publication is the sum of

$ 209.75

Amanda Curry

Subscribed and sworn to me this

16 day of February, 2011

Sadie R. Rockey

Notary Public in and for the State of Washington, residing at Chehalis

SADIE R. ROCKEY NOTARY PUBLIC COMMISSION EXPIRES

LEWIS COUNTY COMMUNITY DEVELOPMENT DEPARTMENT NOTICE OF

PUBLIC HEARING NOTICE Before the LEWIS COUNTY HEARING EXAMINER

PROJECT NAME: Winston Creek Quarry - Special Use Permit Revision

FILE NUMBERS: SU05-00006, SEP05-0065, CL05-00988

PROPOSAL: Revision to the Special Use Permit approved by the Lewis County Hearing Examiner October 19, 2006 (Hearing Examiner No. 06-6-003). The applicant Bart Lyons proposes a change to the hours of operations to accommodate additional shifts as needed. The current operation consists of an approximately 38.2 acre surface mine for the extraction and processing of rock. The existing quarry activities shall comply with all original permit requirements with the exception of the applicants requested revision to the hours of operation (Condition 31 and 32 of the Hearing Examiner decision) if approved.

LOCATION: The project is located at 269 Winston Creek Road, approximately 0.75 miles south of US Highway 12. Tax Parcel Numbers 028751-033-000, 028751-035-000, 028751-014-000, 028751-027-000, 028751-006-000, 028769-013-000, and 028769-001-001, Section 21, T 12 N, R 2 East, W.M., Lewis County, Washington.

The site is zoned as Rural Development District 1-5, "RDD-5".

APPLICANT: Bart Lyons
Winston Quarry, Inc.
269 Winston Creek Rd.
Mossyrock, WA 98564

The Lewis County Community Development Department issued a Mitigated Determination of Nonsignifcance (MDNS) on August 29, 2006. No change is proposed to the MDNS. This information is available to the public on request.

The PUBLIC HEARING WILL BE HELD: February 28, 2011, beginning at 1:30 pm, at the Lewis County Courthouse, 351 NW North Street, Hearing Room, Second Floor, Chehalis, WA 98532

The project file is available for public review at the community development department located at 2025 NE Kresky Avenue between the hours of 8 a.m. and 4:00 p.m. Monday through Friday. For further information, contact Lynn Deitrick, AICP, Senior Project Planner at (360) 740-1146
L#0220 February 16, 2011

Scanned

Attachment A. 8

Lewis County Public Works

Application # SUP11-0002

RECEIVED
FEB 18 2011
LC Public Works

FEB 2011
Received
Community Development

Initial Review for SPECIAL USE PERMIT
ACCESS, ROADS & STORMWATER REQUIREMENTS
Interoffice Correspondence Use Only

PROJECT NAME: Winston Quarry Inc.

Access Review

☐ Incomplete for review* ☐ Access is adequate ☐ Access is inadequate
☐ Additional information is needed. See as noted below.
☒ Other /Notes Has Approved Road Approach permits to Winston Creek Rd Permits 05-065 & 05-066
Reviewed by: [signature] Date 2-16-11

If application is deemed incomplete for Access Review, then it is incomplete for subsequent PW review, and will be returned to Community Development.

Road/Utilities Review

☐ Shall meet LC Road Development Standards ☐ Not needed
☐ Coordinate engineering plans with Stormwater Management requirements.
☐ Additional information is needed. See as noted below.
☒ Other /Notes N/A

Reviewed by: [signature] Date 2-16-11

Traffic Review

☐ Incomplete for review*
☐ TIA is needed per 12.60 LCC
☒ Traffic Impact Analysis (TIA) is not needed
☐ Other /Notes

Reviewed by: [signature] Date 2-19-11

Stormwater Review

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☑ Stormwater management **is not needed**, but the following apply:
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SADIE R. ROCKEY NOTARY PUBLIC COMMISSION EXPIRES

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PUBLIC HEARING NOTICE Before the LEWIS COUNTY HEARING EXAMINER

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The site is zoned as Rural Development District 1-5, "RDD-5".

APPLICANT: Bart Lyons
Winston Quarry, Inc.
269 Winston Creek Rd.
Mossyrock, WA 98564

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L#0220 February 16, 2011

LEWIS COUNTY HEARING EXAMINER

299 N.W. CENTER STREET
P.O. BOX 939
CHEHALIS, WASHINGTON 98532
PHONE: (360) 748-3386
FAX: (360) 748-9533

February 14, 2011

Mr. Bart Lyons
Winston Quarry, Inc.
260 Winston Creek Road
Mossyrock, Washington 98564

Re: Winston Quarry, Inc. - Special Use Permit (Revision)
Hearing No.: 06-6-003

Dear Mr. Lyons:

Please be advised that Lewis County has forwarded your request for a revision to the Special Use Permit (issued in 2006) to my office. I have scheduled a hearing on this matter for **February 28, 2011, beginning at 1:30 p.m.**, at the Lewis County Courthouse, 351 N.W. North Street, Hearing Room, Second Floor, Chehalis, Washington.

Very truly yours,

SENT WITHOUT SIGNATURE TO AVOID DELAY

William C. Boehm
Lewis County Deputy Hearing Examiner

WCB:klf

cc: Mr. Lynn Deitrick

SPECIAL USE PERMIT TRACKING SHEET

TPN: 028751-033-000 SUP11-0002

Applicant's Name: WINSTON QUARRY INC.

Date Routed to Planning: 02/11/2011

CARL MATERIALS

☐ CARL #: _____ ☐ Updated Assessor's Map

PERMIT TECHNICIAN

Make a copy of all documents and distribute to:

ROUTING DATES: *1st Distribution:* 2-14-2011 *2nd Distribution:* _____

1st Distribution (In-House):

☒ Sanitarian, Environmental Health, MH or MM

☒ Sue Kennedy, Water Laboratory

☒ Lanette Scapillato, Public Works

X Make file folder and return to Planner - Date returned to Planning: 02/14/2011

COMMENTS

Any comments must be submitted to _____, Planning, within 15 days of the above routing date. No comments. NH 02-14-11

LEWIS COUNTY
HEALTH & SOCIAL SERVICES

Environmental Health
DIVISION

INTER-OFFICE MEMORANDUM

TO: Lynn Detrick

FROM: Sue Kennedy

DATE: February 14, 2011

SUBJECT: SUP11-0002
Winston Quarry Inc.

I have reviewed the above subject project and have the following comments:

This project required an approved Group B public water supply to serve the facility. This was a condition of the original SEP05-0065 and SUP05-00006, Condition # 29. To date this approval has not been completed. Recently, January 10, 2011, Lewis County conducted and approved a well site inspection however a Public Water System approval is still pending.

Lynn Deitrick

From: Lynn Deitrick
Sent: Monday, February 14, 2011 02:24 PM
To: 'Bart Lyons (bartlyons@live.com)'
Subject: Hearing Notice attached for your info
Attachments: NOH Amendment to SU05-00006 Winston Quarry, Inc.doc

Bart,
Attached is the hearing notice that was posted on your site and mailed to property owners for your info.
Thank you,

LYNN DEITRICK, AICP
Senior Project Planner | Lewis County Community Development | Planning Division
2025 NE Kresky Ave. | Chehalis, WA 98532 | 360-740-2637 | Lynn.Deitrick@lewiscountywa.gov

Lynn Deitrick

From: Lynn Deitrick
Sent: Monday, February 14, 2011 02:15 PM
To: 'Bart Lyons (bartlyons@live.com)'
Subject: FW: SUP110-0002 comment from Lewis County Health Dept. 2-14-2011
Attachments: LC Health Water cmnt 2-14-2011.pdf

Bart,
I'm trying this email address you gave me.
Thank you,

Lynn Deitrick, AICP
Senior Project Planner
Lewis County - Community Development - Planning Div.
2025 NE Kresky Ave.
Chehalis, WA 98532
360-740-2637
Lynn.Deitrick@lewiscountywa.gov

From: Lynn Deitrick
Sent: Monday, February 14, 2011 02:11
To: 'Bart Lyons (winstongquarryinc@live.com)'
Cc: Sue Kennedy; Jerry Basler
Subject: SUP110-0002 comment from Lewis County Health Dept. 2-14-2011

Bart,
Since we are on such a short timeframe to make sure everything is addressed from the previous SUP for the hearing on your proposal to revise hours of operation (hearing on Feb. 28, 2011) you need to address the attached comment ASAP. Once you have worked with Sue Kennedy to address her comments provide me with confirmation that her issues have been addressed.
Thank you,

LYNN DEITRICK, AICP
Senior Project Planner | Lewis County Community Development | Planning Division
2025 NE Kresky Ave. | Chehalis, WA 98532 | 360-740-2637 | Lynn.Deitrick@lewiscountywa.gov

SPECIAL USE PERMIT TRACKING SHEET

TPN: 028751-033-000 SUP11-0002

Applicant's Name: WINSTON QUARRY INC.

Date Routed to Planning: 02/11/2011

CARL MATERIALS

☐ CARL #: _____ ☐ Updated Assessor's Map

PERMIT TECHNICIAN

Make a copy of all documents and distribute to:

ROUTING DATES: *1st Distribution:* 2-14-2011 *2nd Distribution:* _____

1st Distribution (In-House):

☒ Sanitarian, Environmental Health, MH or MM

☒ Sue Kennedy, Water Laboratory

☒ Lanette Scapillato, Public Works

X Make file folder and return to Planner ~ Date returned to Planning: 02/14/2011

COMMENTS

Any comments must be submitted to _____, Planning, within 15 days of the above routing date. _____

Amend SU05-00006

LEWIS COUNTY
COMMUNITY DEVELOPMENT DEPARTMENT

2025 NE Kresky Avenue
Chehalis, WA 98532-2626

(360) 740-1146
FAX: (360) 740-1245

SPECIAL USE PERMIT APPLICATION

Application fee: **$1,385** (up to 10 hours, over 10 hours - $100 per hour). Planning review fee: **$90**, SEPA fee with Legal Publication **$605**, Hearings Examiner fee **$600**, Environmental Health review fees **$390**. Public Works review fee **$200**. = **$3270 minimum submittal fee**. Other fees may apply: Additional fees may include but are not limited to permits for Environmental Health for septic and/or water and Public Works for stormwater and/or roads.
Amendments/Revisions: $695, plus Legal publication fee $250 and Hearing Examiner fee $600, EH review fees $390, PW'S review fee $200.
Additional fees may include but are not limited to permits for Environmental Health for septic and/or water and Public Works for stormwater and/or roads.

FOR OFFICE USE ONLY:
Application Number: ~~SU~~ SUP 11-0002 Application Date: 2-11-2011
Permit Technician Alene Date Distributed:

1. **PROJECT NAME:**

2. **APPLICANT:**
Name Winston Quarry Inc
Address 269 Winston Creek Rd
Mossyrock, Wa 98564
Telephone ~~Home~~ Office (360) 985-0487 Cell Work (360) 520-7090
E-Mail ~~winstonquarryinc@live.com~~
BartLyons@live.com

3. **PROPERTY OWNER (If Other Than Applicant, proof of lease agreement or authorization must be attached):**
Name Same
Address
Telephone Home (_____)_____ Work (_____)_____
E-Mail

4. **SURVEYOR OR ENGINEER:**
Name N/A
Address
Telephone Home (_____)_____ Work (_____)_____
E-Mail

5. **PROPERTY LOCATION:**
SE ¼, Section 21, Township 12 North, Range 2E, WM
TAX PARCEL NUMBER(S): 028751-033-000, 028751-035-000, 028751-014-000
028751-027-000
028751-006-000
~~028751-013-000~~ 028764-013-000
028769-001-001
SITE ADDRESS: 269 Winston Creek Rd Mossyrock Wa

6. **BRIEF DESCRIPTION OF THE PROPOSAL:** To change our special use permit to allow Hours of Operations... to be flexible due to the demand of the up coming Ritchie Bro's Project.
Would also be willing to give Notice to Adj. Prop. Owners 24 hr. Advance of Operating out of Normal Hours

Total number of Employees: 6 Number of employees who live on site: 0

Days and Hours of Operation: 7 days per week, 24 hrs per day if needed For Projects.

7. **WATER SUPPLY:**
Existing Source: Not applicable - see Special

Proposed Source: Use Permit # SU05-0000

8. **SEWAGE DISPOSAL:**
Existing Method: Not Applicable - See Special

Proposed Method: Use Permit # SU05-00006

9. **ACCESS:**
Existing Access: Not Applicable - See Special

Proposed Access: Use Permit # SU05-00006

10. **SITE CHARACTERISTICS:**
Total Size of Development Site: 38.2 Acres

Please list all existing (non-residential) buildings and the square footage of each:

Not Applicable - see Special Use Permit # SU05-00006

Please list all proposed (non-residential) buildings and the square footage of each:

Not Applicable - see Special Use Permit # SU05-00006

Total square footage of impervious surface (paved, covered, built on, gravel, etc.):

Existing: NA Proposed: NA

Proposed number of dwelling units: NA

11. **VEHICLES AND TRAFFIC:**
How many vehicle trips will be generated daily to and from the site by the proposed use? Please include trips by employees, customers, delivery trucks, etc.

Not Applicable - see Special Use Permit #SU05-00

How will these trips be distributed by mode and time of day?

Not Applicable - see Special Use Permit #SU05-0000

How many parking spaces will be provided?

12. **ADJACENT PROPERTIES:**
What provisions have been made to make the development compatible with the appearance and character of the surrounding area?

Cleaned up old slash from logging Bought and cleaned up old Salvage from Roger Brown, and purchased, Mrs Davon McMahan's properties,

What provisions have been made to safeguard the adjoining properties against any detrimental effects caused by the development?

ALL OPERATIONS are CONSISTENT with EXISTING SUP.

13. SUPPLEMENTAL INFORMATION:

All of the information listed below is required for a complete application. If you are unable to provide any of this information, or believe that it is not applicable to your project, please provide an explanation of why it has not been included. Please attach and label the following information to your application for submittal:

1. Legal descriptions of all the property involved in the proposal.
2. Detailed summary identifying all uses proposed for the site, including direct and accessory uses. All potential uses should be identified because approval of the project will be limited to those uses documented in the application materials and maps. Other uses will be prohibited.
3. A list of all property owners within 500 feet of the development site, and two sets of addressed, stamped envelopes for each.
4. A map or series of maps drawn at a scale of 1"=100' which show:
    a. The boundaries of the designated area.
    b. Boundaries of individual ownerships, or leasehold interests.
    c. Dedicated rights of ways or easements over, across, or under the property to be reviewed for approval.
    d. Existing roads, highways, and driveways abutting the site and within 500 feet of the site, and the principal access from the site to the nearest arterial or state highway.
    e. Property ownerships within 500 feet of the site.
    f. Wells within the development area or within 500 feet of the boundary of the site which are used for domestic use or identified through well log or water right records.
    g. A general identification and location of critical areas on the site or within 500 feet of the site and the identification of all Type 1, 2, and 3 streams under WDF&W criteria, and any streams or water bodies subject to jurisdiction under Chapter 90.58 RCW, the State Shoreline Management Act.
    h. The location and height of all existing and proposed structures and their square footage: houses, sheds, garages, barns, fences, culverts, signs, storage tanks, exterior lighting, outdoor storage areas, parking areas, loading zones, etc.
    i. North arrow, scale, date, site address and directions to the site.
5. SEPA Environmental Checklist
6. Soils report, as required by the Lewis County Sanitary Code, LCC 8.40 and 8.41, if new or altered on-site sewage systems are proposed.
7. Letters of service indicating that the proposal will be served by: police, fire district, and refuse disposal. If connection to a municipal or rural water and/or sewer system is proposed a letter of service is required from those providers. If dwelling units are proposed a letter of service is also required from the local school district.
8. Additional materials may be required, depending on the specific project, pursuant to LCC 17.115 (Special Use Permits) and other applicable county regulations.

14. SIGNATURES

I/We certify that all of the information contained in, and attached to, this application is true to the best of my/our knowledge. Additionally, I/We certify that I/We have read and understand the limitations and conditions of Lewis County Code, especially Chapter 17.115 (Special Use Permits), and agree to comply with all conditions of approval.

SUBSCRIBED AND SWORN TO BEFORE ME THIS 11 DAY OF Feb, 2011.

PATRICIA A WEIHER NOTARY PUBLIC STATE OF WASHINGTON COMMISSION EXPIRES 6-29-14

Patricia A Weiher

Notary Public in and for the State of Washington

My office expires: 6/29/14

AFFIDAVIT OF MAILING

I, Lynn Deitrick, representing Lewis County, declare as follows:

1. I am a citizen of the State of Washington, over the age of eighteen years.

2. On the 14th day of February 14, 2011, I mailed a Notice of Public Hearing, a copy of which is attached hereto, regarding the Winston Creek Quarry revision to hours of operation -Special Use Permit Application, File No. SUP05-00006, to each of the persons on the attached mailing list.

3. I declare under penalty of perjury under the laws of the State of Washington that the foregoing is true and correct.

Dated at Lewis County, Washington, this 14th day of February 2011.

Lynn Deitrick

Sign Name Here

Lynn Deitrick

Print Name Here

Subscribed and sworn to before me this 14 day of February, 2011.

Donna P. Olson

NOTARY PUBLIC in and for the State of Washington, residing at: Winlock, WA

My commission expires: 1-22-14

Notary Public
State of Washington
Donna P Olson
Commission Expires 1-22-14

LEWIS COUNTY COMMUNITY DEVELOPMENT DEPARTMENT NOTICE OF

PUBLIC HEARING NOTICE
Before the
LEWIS COUNTY HEARING EXAMINER

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(Pat Anderson // Publish Chronicle and East County Journal on February 16, 2011)

AFFIDAVIT OF POSTING OF PUBLIC HEARING

The undersigned does hereby certify that he/she posted a notice of Public Hearing for the Winston Creek Quarry revision to hours of operation - Special Use Permit (SUP05-00006).

The signatory posted notice of the public hearing for the proposed revision to the Special Use Permit on February 11, 2011, pursuant to applicable codes. Posted in a conspicuous manner on the property upon which the substantial development is proposed at the following location:

At the entrance to the subject site fronting on Winston Creek Road.

Dated at Lewis County, Washington, this 14 day of February, 2011.

Lynn Deitrick
Sign Name Here

Lynn Deitrick
Print Name Here

Subscribed and sworn to before me this 14 day of February, 2011.

Donna P. Olson
NOTARY PUBLIC in and for the State of Washington, residing at: Winlock, WA

My commission expires: 1-22-14

Notary Public
State of Washington
Donna P Olson
Commission Expires 1-22-14

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PUBLIC HEARING NOTICE
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LEWIS COUNTY HEARING EXAMINER

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(Pat Anderson // Publish Chronicle and East County Journal on February 16, 2011)

Rayonier Timberlands
3033 INGRAM ST
QUIAM, WA 98550

HO

Benito Lazo, et al.
2120 NE 158TH PL
PORTLAND, OR 97230

Harry Flynn
5110 CARTER AVE
SAN JOSE, CA 95118-2114

Steven and Danita Kynaston
PO BOX 2254
LONGVIEW, WA 98632-8329

John & Lorraine Wollam
PO BOX 2616
BATTLE GROUND, WA 98604

Buehler Family Trust
225 WINSTON CREEK RD
MOSSYROCK, WA 98564

Carmen Morin
PO BOX 552
MOSSYROCK, WA 98564-0552

Willard Youn
PO BOX 415
CHEHALIS, WA 98532

Kerry Libby et al.
PO BOX 93
MOSSYROCK, WA 98564

Daniel Hamann
PO BOX 263
CENTRALIA, WA 98531

Michael Mussman
2629 FIELD ST
LONGVIEW, WA 98632-2012

Dana & Diana Wolfe
PO BOX 160
MORTON, WA 98356

Rob Winston Creek

The Lloyd Rev Trust DTD 8/16/04
6106 NE 78TH ST 254.1
VANCOUVER, WA 98665

Leonard & Geraldine Ryerson
Family Trust
407 W REYNOLDS AVE
CENTRALIA, WA 98531

Bradley & Connie Hoggat
PO BOX 128
KALAMA, WA 98625

Mayfield Kamper Klub Inc.
PO BOX 161
SALKUM, WA 98582

Michael Myhre et al.
PO BOX 394
ONALASKA, WA 98570-0394

DCW

Danon McMahan
301 B WINSTON CREEK RD
MOSSYROCK, WA 98564

Donald Rico
PO BOX 321
MOSSYROCK, WA 98564-0321

Delmer Yost
301 WINSTON CREEK RD
MOSSYROCK, WA 98564-9612

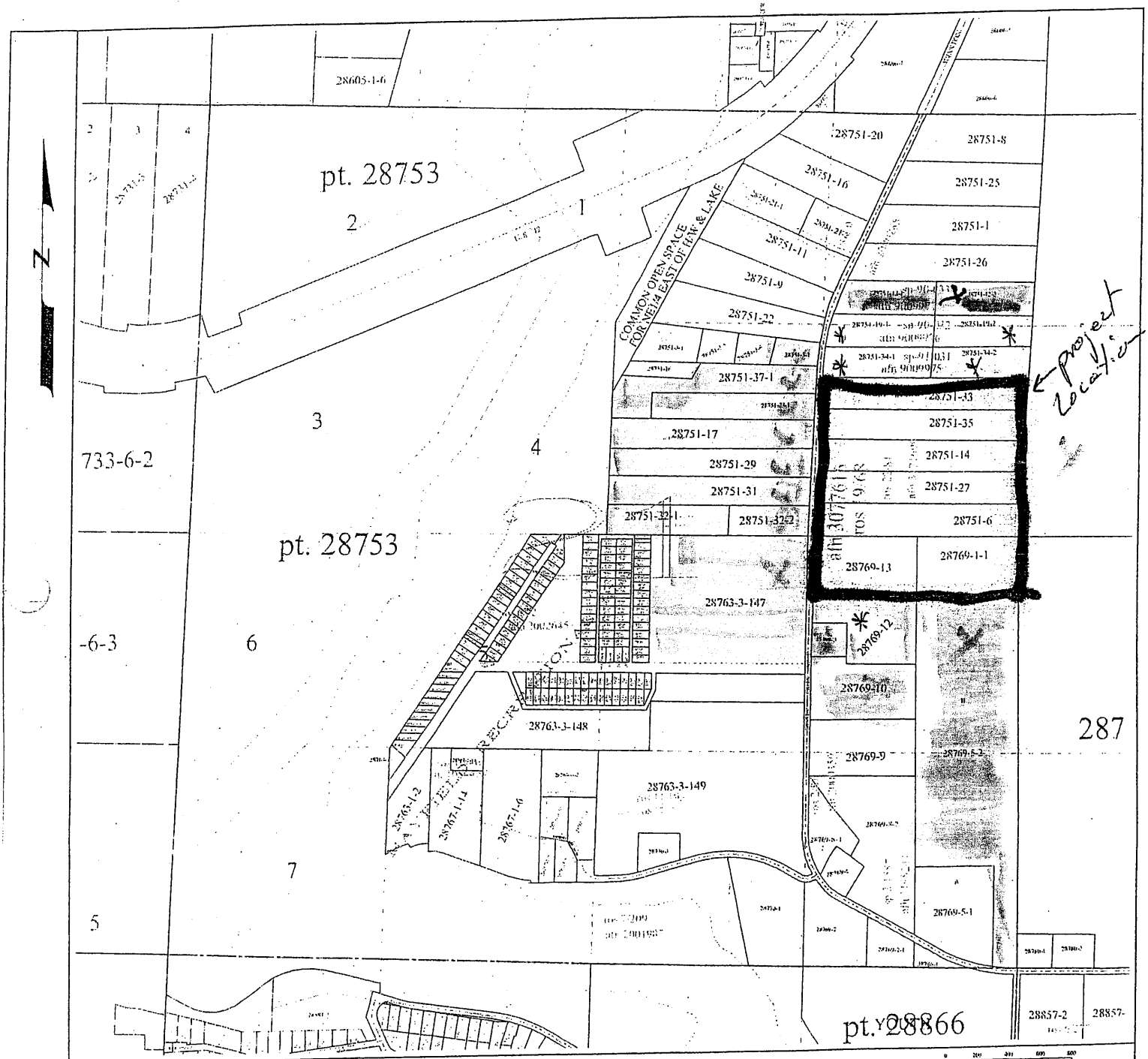
Bradley & Doretta Erven
PO BOX 208
SILVER CREEK, WA 98585-9704

Applicant:
Bart Lyons
Winston Quarry. Inc.
269 Winston Creek Rd.
Mossyrock, WA 98564

* OWNED BY APPLICANT

De Notes

_ Property Owners NOTIFIED



Hearings Examiner's Findings

Applicant is requesting Modification of Items 31, 32 to allow operations to run additional shifts as needed

Barb Lyon

2-11-11

PERMISSION TO ENTER

2-1-11
Date

Lewis County Community Development Department
Lewis County Health & Social Services (Environmental Health)
2025 NE Kresky Avenue
Chehalis, WA 98532

I understand that County regulations require owner permission for County personnel to enter private property to conduct permit processing, review and inspections. I also understand that my failure to grant permission to enter, or an inability to contact me for prior notification of the time and date of inspection entries, may result in denial or withdrawal of a permit or approval.

Applications have been submitted for the following services:

1) SUP; 2) _____; 3) _____;
(Enter Type of Permit – i.e., building, septic, etc., - include all that apply)

which may require on-site permit processing, review and inspection by employees of the Community Development Department, Lewis County Environmental Services or Public Works for the property at:

_____; and See Attached Sept
(site address/location) (tax parcel number)

By my signature below, permission is granted for representative(s) of the Community Development and Public Health Departments (Planning, Environmental, and Building sections) to enter and remain on and about the property for the sole purpose of processing such permits and performing required inspections and/or reviews.

By my signature below, I certify that I am either the current legal owner of this property or their authorized representative. With this document I take full responsibility for the lawful action that this document allows.

Prior notification of the date of inspection(s) will take place is:

[X] Not required [ ] Required: - ( ) _____ - _____ (Must provide phone number where applicant/representative can be reached)

Bert Lyons
Name as listed on Application
(Please Print)

Bert Lyons
Signature

269 Winston Crk Rd
Mailing Address of Signatory (Street / P.O. Box)

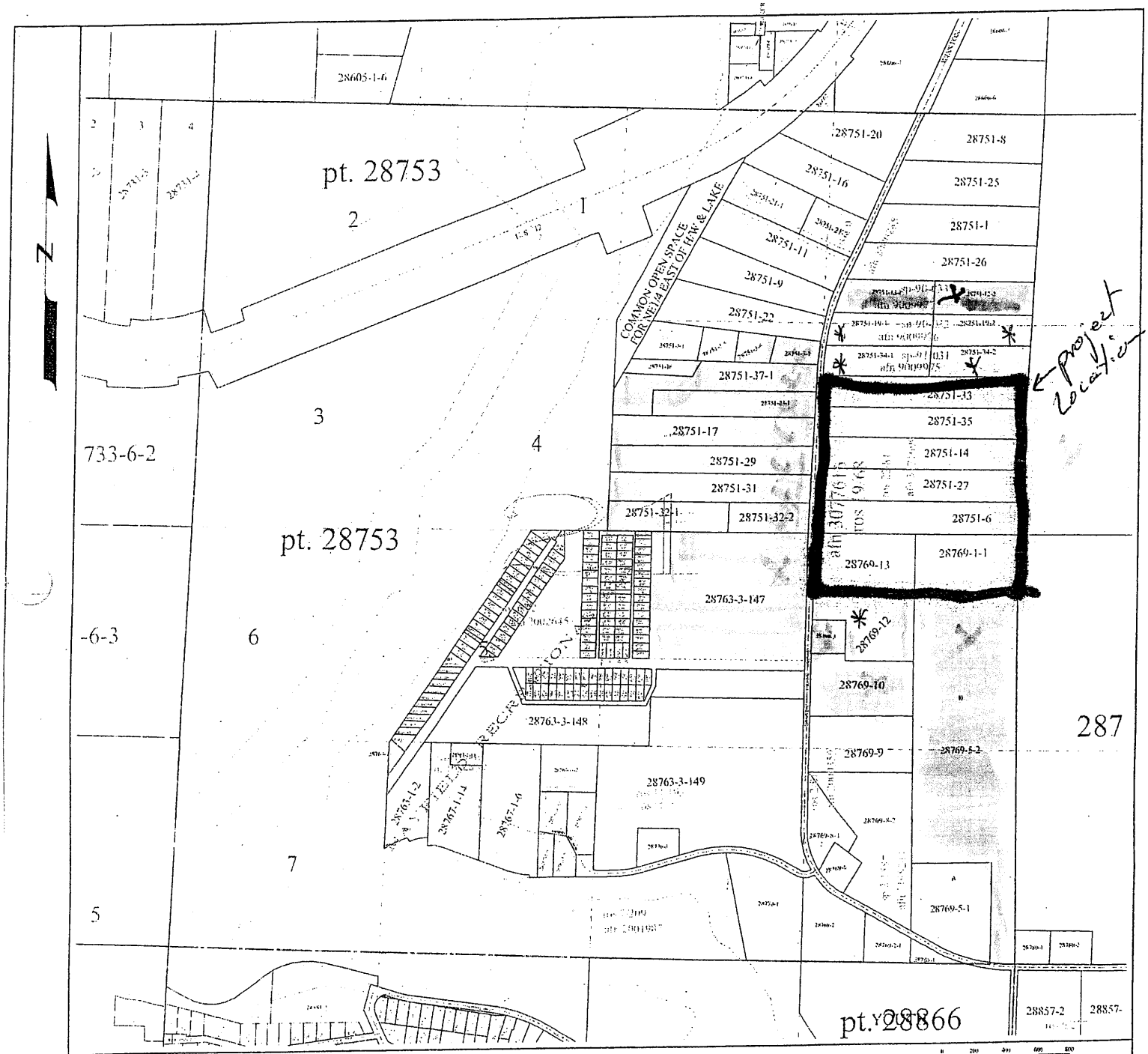
Mossrock WA 98564
City, State, Zip

_____
Name of individual signing this document
(☐ **Property Owner or** ☐ **Authorized Agent**)
(Please Print)

* OWNED BY APPLICANT

Dc Notes

_ PROPERTY OWNERS NOTIFIED



SCALE : 1 in = 400 ft

LEWIS COUNTY ASSESSOR'S MAPPING

Date FEB-17-2006

LEWIS COUNTY G.I.S.

Section 21

Township 12 N Range 02 E

Map for Locating Property Only
Measurements Not Guaranteed
Scale May Change When Printed

Road centerline from mobile GPS, Lewis Co.
PLSS lines modified from WA Dept. Nat. Res.
1996 digital orthophoto from WA Dept. Nat. Res.
Parcel lines digitized from LC Assessor Maps
& adjusted to the GPS roads & PLSS lines.

Rayonier Timberlands
3033 INGRAM ST
QUIAM, WA 98550

HO

Benito Lazo, et al.
2120 NE 158TH PL
PORTLAND, OR 97230

Harry Flynn
5110 CARTER AVE
SAN JOSE, CA 95118-2114

Steven and Danita Kynaston
PO BOX 2254
LONGVIEW, WA 98632-8329

John & Lorraine Wollam
PO BOX 2616
BATTLE GROUND, WA 98604

Buehler Family Trust
225 WINSTON CREEK RD
MOSSYROCK, WA 98564

Carmen Morin
PO BOX 552
MOSSYROCK, WA 98564-0552

Willard Youn
PO BOX 415
CHEHALIS, WA 98532

Kerry Libby et al.
PO BOX 93
MOSSYROCK, WA 98564

Daniel Hamann
PO BOX 263
CENTRALIA, WA 98531

Michael Mussman
2629 FIELD ST
LONGVIEW, WA 98632-2012

Dana & Diana Wolfe
PO BOX 160
MORTON, WA 98356

Rob Winston Creek

The Lloyd Rev Trust DTD 8/16/04
6106 NE 78TH ST
VANCOUVER, WA 98665

254.1

Leonard & Geraldine Ryerson
Family Trust
407 W REYNOLDS AVE
CENTRALIA, WA 98531

Bradley & Connie Hoggat
PO BOX 128
KALAMA, WA 98625

Mayfield Kamper Klub Inc.
PO BOX 161
SALKUM, WA 98582

Michael Myhre et al.
PO BOX 394
ONALASKA, WA 98570-0394

DCW

Danon McMahan
301 B WINSTON CREEK RD
MOSSYROCK, WA 98564

Donald Rico
PO BOX 321
MOSSYROCK, WA 98564-0321

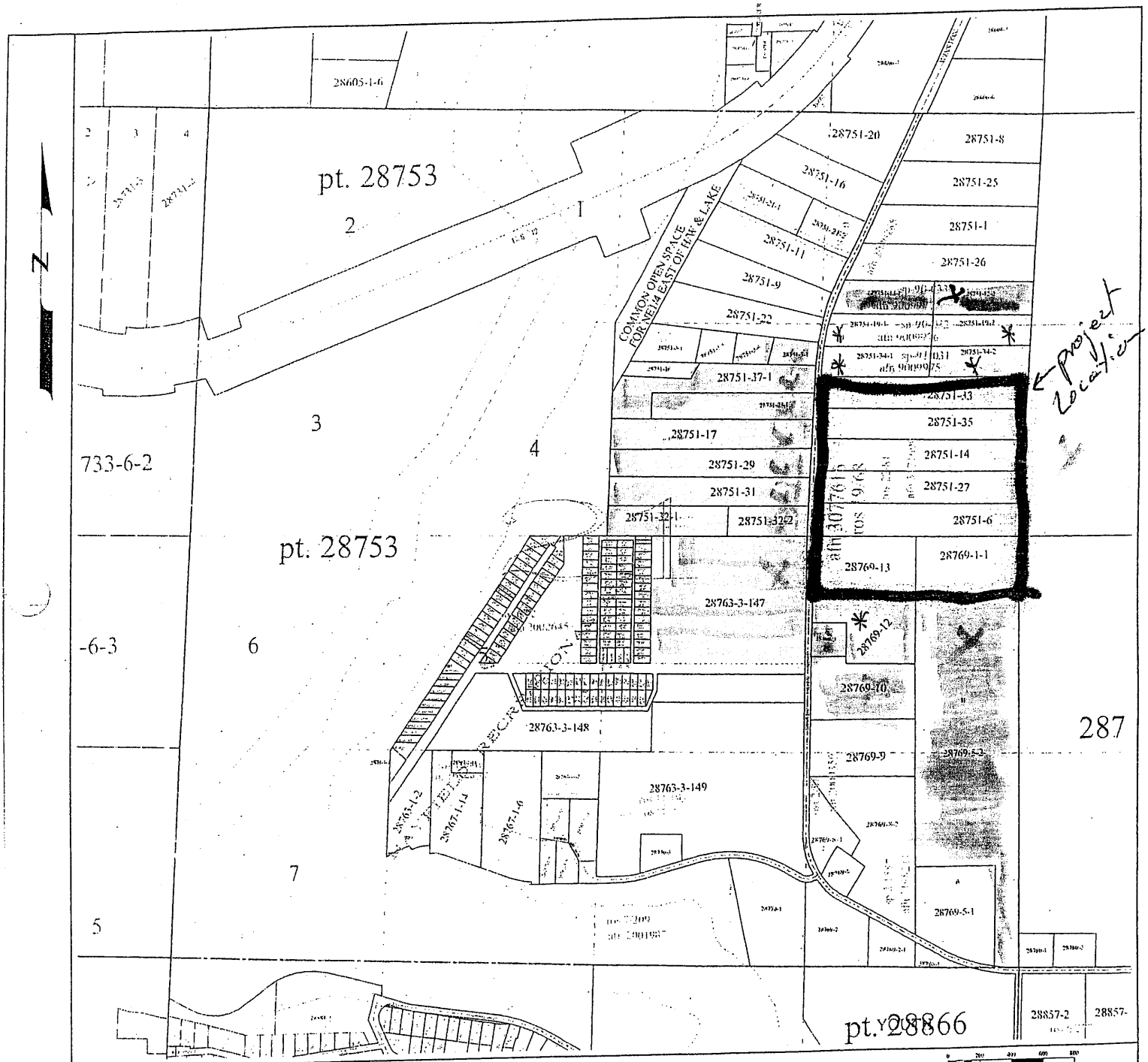
Delmer Yost
301 WINSTON CREEK RD
MOSSYROCK, WA 98564-9612

Bradley & Doretta Erven
PO BOX 208
SILVER CREEK, WA 98585-9704

Applicant:
Bart Lyons
Winston Quarry, Inc.
269 Winston Creek Rd.
Mossyrock, WA 98564

* OWNED BY APPLICANT

De Notes
_ Property Owners Notified



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LEWIS COUNTY ASSESSOR'S MAPPING

Date: FEB-17-2006

LEWIS COUNTY G.I.S.

Section 21

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& adjusted to the GPS roads & PLSS lines.

LEWIS COUNTY COMMUNITY DEVELOPMENT DEPARTMENT NOTICE OF

PUBLIC HEARING NOTICE
Before the
LEWIS COUNTY HEARING EXAMINER

PROJECT NAME: Winston Creek Quarry - Special Use Permit Revision

FILE NUMBERS: SU05-00006, SEP05-0065, CL05-00988

PROPOSAL: Revision to the Special Use Permit approved by the Lewis County Hearing Examiner October 19, 2006 (Hearing Examiner No. 06-6-003). The applicant Bart Lyons proposes a change to the hours of operations to accommodate additional shifts as needed. The current operation consists of an approximately 38.2 acre surface mine for the extraction and processing of rock. The existing quarry activities shall comply with all original permit requirements with the exception of the applicants requested revision to the hours of operation (Condition 31 and 32 of the Hearing Examiner decision) if approved.

LOCATION: The project is located at 269 Winston Creek Road, approximately 0.75 miles south of US Highway 12. Tax Parcel Numbers 028751-033-000, 028751-035-000, 028751-014-000, 028751-027-000, 028751-006-000, 028769-013-000, and 028769-001-001, Section 21, T 12 N, R 2 East, W.M., Lewis County, Washington.

The site is zoned as Rural Development District 1-5, "RDD-5".

APPLICANT: Bart Lyons
Winston Quarry, Inc.
269 Winston Creek Rd.
Mossyrock, WA 98564

The Lewis County Community Development Department issued a Mitigated Determination of Nonsignifcance (MDNS) on August 29, 2006. No change is proposed to the MDNS. This information is available to the public on request.

The PUBLIC HEARING WILL BE HELD: February 28, 2011, beginning at 1:30 pm, at the Lewis County Courthouse, 351 NW North Street, Hearing Room, Second Floor, Chehalis, WA 98532

The project file is available for public review at the community development department located at 2025 NE Kresky Avenue between the hours of 8 a.m. and 4:00 p.m. Monday through Friday. For further information, contact Lynn Deitrick, AICP, Senior Project Planner at (360) 740-1146

(Pat Anderson // Publish Chronicle and East County Journal on February 16, 2011)

BEFORE THE LEWIS COUNTY HEARINGS EXAMINER

IN RE:	HEARING NO. 06-6-003
WINSTON QUARRY, INC.,	FINDINGS OF FACT AND CONCLUSIONS OF LAW
Applicant.	

BACKGROUND

This matter came on for public hearing at 9:00 a.m. on October 17, 2006, before the Lewis County Hearing Examiner for the purpose of reviewing the application by Winston Quarry, Inc./Bart Lyons (the "Applicant") for a special use permit to expand an existing small surface mine beyond its present exempt level. More specifically, the Applicant seeks to expand this quarry to 38.2 acres for the extraction and processing of basalt.

Although Mr. Lyons was present during the hearing the Applicant was represent by Skip Urling of Ecological Land Services. Lewis County was presented by its planner, Kiernen Lien. Approximately twenty members of the public were present although most of these individuals were experts or otherwise connected with the Applicant.

The public hearing commenced with a brief description of the application by Mr. Lien. Mr. Lien's testimony was consistent with his earlier staff report submitted in advance of the public hearing. As noted in the staff report Lewis County recommends approval of the expansion of the quarry subject to several conditions.

The quarry is located at 269 Winston Creek Road, less than a mile south of the Highway 12/Winston Creek Road interchange. The site is zoned RDD-5. Adjoining properties to the east are zoned forest resource land while adjoining properties to the north, west and south are zoned RDD-5 or RDD-10. A short distance west of the property is the more intensely zoned Lake Mayfield Village and Resort. As noted by Mr. Lien, the application has undergone SEPA review and a Mitigated Determine of Non-Significance (MDNS) was issued on August 29, 2006. Although comments were received in response to the MDNS no appeals were made.

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CHEHALIS, WASHINGTON 98532
Phone: 360-748-3386/Fax: 748-9533

A Critical Area and Resource Land (CARL) review was also undertaken as part of the application. This review disclosed that there are forest resource lands adjoining the property to the east. It also disclosed that there is a wetland on the site located in its northwest corner. Mr. Lien notes that there is adequate critical areas protection and buffering as part of the proposed use.

There is presently located on the site a small quarry operation consisting of less than three acres. Because of its small size the present operation is not regulated by the County's special use regulations nor by the State mining regulations. The proposed expansion of the quarry triggers both the need to have a County special use permit as established under LCC 17.115, and to meet all requirements imposed by the State and other regulators for mining and subsequent reclamation.

The requested special use permit is only one of many permits the Applicant will be required to obtain before expanding operations. The Applicant must also obtain a reclamation permit from the State, a stormwater permit, an approved septic design, and an approved Class B well. In addition, the Applicant must obtain an NPDES sand and gravel permit, and approval from the air pollution authorities.

Following Mr. Lien's testimony Skip Urling of Ecological Land Services spoke on behalf of the Applicant. Mr. Urling described how quarry operations would commence at the existing quarry area near the top of the property and work their way downhill to the west, creating a large bowl. The proposed well for the site would be located in the southeast corner with a 100 foot protected radius. The septic system would be located near the existing scale shack. The stormwater system would be located nearby and would drain to the west (away from wetlands) and under Winston Creek Road.

Mr. Urling further testified that the Applicant has a solid track record for responsible performance of the existing, smaller quarry. Mr. Urling presented documents proving regular

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and proper maintenance of the site to control dust. He also explained that the expanded use would not increase the size of the operations but merely allow the existing quarrying process to be expanded to the rest of the site.

Following Mr. Urling's testimony Edward Coulter of Northwest Energetic Services testified relating to the blasting activities on-site. Mr. Coulter explained how there had been seven recent blasts on the site and that these blasts were well within allowable limits and that future blasting should not have a significant impact on adjoining properties.

Roy Garrison of Ecological Land Services next testified regarding the reclamation process for the site, and the various requirements imposed by DNR for the quarry design, road system and setbacks from adjoining uses.

The final witness for the Applicant was Robert Balmelli, a local engineer. Mr. Balmelli testified to the stormwater design and how this design would control peak water events, thereby improving the present arrangements for the discharge of stormwater onto adjoining properties.

Following the Applicant's witnesses the hearing was open to the public. The only person to come forward was a neighbor, Danon McMahan. Mrs. McMahan's property abuts the site to the south. Mrs. McMahan had earlier provided written comments in response to the SEPA review. Her testimony amplified comments made in her earlier letter. She explained how recent blasting had twice interrupted the flow of her well. Her efforts to contact the Applicant about this problem were not responded to. Mrs. McMahan also testified to the rapid growth of the quarry over the last few years and how this growth has interrupted the peace and enjoyment of her property, particularly the noise from the operation of trucks. She is concerned that the proposed use will expand even further the operation and the accompanying noise. She asks that operations be closely regulated and prohibited on weekends. She also notes that present stockpiles are located well within the proposed buffer.

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In response to Mrs. McMahan's testimony the Applicant offered to establish a seismograph on her property to determine the impacts of future blasting. They also agreed to limit operations on weekends but asked that some allowance be made to operate on Saturdays when an emergency existed or maintenance needed to be done.

The proposed use represents the classic conflict in our County between the interest of one landowner seeking to make the fullest possible use of his property and the interest of adjoining neighbors who wish to preserve their rural peace and quiet. These conflicts are unavoidable and can never be fully resolved. If the proposed use is allowed (as will occur in this case) it remains important to regulate that use so that other landowners are not injured in the process. The requested special use will be granted subject to the conditions requested by Lewis County (with slight adjustment to their condition 13) as well as several additional conditions that I am imposing, all set forth in the permit.

Based upon the foregoing I make the following:

FINDINGS OF FACT

1. The Applicant, Winston Quarry, Inc./Bart Lyons, requests a special use permit to expand an existing surface mine located at 269 Winston Creek Road.

2. The site is zoned RDD-5.

3. Lewis County staff recommends approval of the requested permit subject to certain conditions as contained in their staff report.

4. The SEPA Mitigated Determination of Non-Significance was issued on August 29, 2006. The MDNS has not been appealed.

5. County staff has undertaken a CARL review and has identified critical areas on or near the proposed site. Lewis County staff finds that all critical areas protection and buffers are in place as part of the proposal.

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6. A public hearing on the application was held on October 17, 2006 at 9:00 a.m. at the Lewis County Commissioner's Hearing Room. Comments were received from the Applicant and its expert witnesses. Comments were also received from one adjoining landowner, Danon McMahan, who testified in opposition to the proposed expansion.

7. The Applicant does not object to the recommended conditions of approval submitted by Lewis County with the exception that the Applicant proposes minor alteration to condition number thirteen. The Applicant proposes that this condition be modified so that the required vegetative buffer is allowed some time to be established.

8. The proposed activity will not require additional public services or facilities and is adequately serviced by public roads.

9. The proposed activity will not create excessive additional requirements at public cost for public facilities and service.

10. The road servicing the site (as modified by the proposal) is adequate for the anticipated traffic associated with the site and will not reduce the level of service below the minimum level adopted by the County. Additional traffic generated by the expanded operations will not reduce the level of service on Winston Creek Road or at the Winston Creek/Highway 12 interchange.

11. The proposed expansion will not result in the destruction, loss or damage of any natural, scenic or historic feature of major importance.

12. The proposal is consistent with all requirements for the protection of critical areas pursuant to Chapter 17.35 LCC.

13. The proposal will operate within the guidelines of the Department of Natural Resources reclamation permit and within the guidelines of the Department of Ecology concerning noise, dust, smoke, fumes, and odor. No glare will be produced.

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14. The proposed use is consistent with the supplemental requirements of Chapter 17.145 LCC.

Based upon the foregoing Findings of Fact the Hearing Examiner makes the following:

CONCLUSIONS OF LAW

1. The Hearing Examiner has jurisdiction over the parties and the subject matter.

2. The site is designated RDD-5 and the proposed use is consistent with that designation and meets the goals and requirements of the Growth Management Act.

3. The proposal shall operate within the guidelines of the Department of Natural Resource reclamation permit and within the guidelines established by the Department of Ecology.

4. The proposed use satisfies all criteria for special use as is set forth in LCC 17.115.

5. The proposed use is consistent with the supplemental requirements of LCC 17.145.

6. A special use permit should be granted subject to the conditions set forth in the permit.

DATED this 19 day of October, 2006.

Mark C. Scheibmeir
Lewis County Hearing Examiner

LEWIS COUNTY HEARING EXAMINER
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CHEHALIS, WASHINGTON 98532
Phone: 360-748-3386/Fax: 748-9533

BEFORE THE LEWIS COUNTY HEARINGS EXAMINER

IN RE:	)	HEARING NO. 06-6-003
WINSTON QUARRY, INC.,	)	SPECIAL USE PERMIT
Applicant.	)	

The Hearing Examiner having previously entered his Findings of Fact and Conclusions of Law now, therefore, the Applicant's request for a special use permit to expand an existing surface mine to 38.2 acres is **APPROVED** subject to the following conditions:

1. All phases of the proposed mining expansion shall comply with the requirements of the Lewis County Comprehensive Plan and Development Regulations.

2. The Applicant shall meet the minimum requirements of LCC Chapter 15.45, erosion and sediment control.

3. The project shall comply with all requirements of Seismic Risk Zone 3.

4. The Applicant shall obtain all other required local, state and federal permits and approvals.

5. The Applicant shall employ Best Management Practices for Water Quality prior to and during the project.

6. Discharge of petroleum or hazardous materials to any ditch, swale, or other non-impervious surfaced area, where migration to an aquifer is reasonably likely, is prohibited.

7. High intensity and special high intensity uses shall conform to the aquifer recharge areas element of the Lewis County Critical Areas, LCC 17.35.

8. All development shall comply with the conditions set forth in the Lewis County CARL review, CL05-00988.

9. The Applicant shall submit for a road approach permit for the project from Lewis County.

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10. All releases of oil, hydraulic fluids, fuels, other petroleum products, paints, solvents, and other deleterious materials must be contained and removed in a manner that will prevent their discharge to waters and soils of the state. The clean up of spills should take precedence over other work on site.

11. Coverage under the Natural Pollution Discharge Elimination System, (NPDES) and State Waste Discharge General Permit for Stormwater Discharges Associated with Construction Activities is required for construction sites which disturb an area of one acre or more and which have or will have a discharge of stormwater to surface water or a storm sewer.

12. A fifty-foot setback from the mine property and from all abutting property shall be maintained for areas of direct cut or fill connected with resource extraction operations.

13. A twenty-five foot screen within the fifty-foot setback on the mine property, consisting of site obscuring vegetation, berms, or other methods to conceal the mine from public rights of way or property used for residential purposes shall be maintained. "Site obscurity and vegetation" shall consist of conifer and hardwood trees consistent with surrounding forested areas that, within a period of ten years from the date of the permit, shall achieve site obscuring height.

14. A two hundred foot setback shall be maintained between any mining activity and any existing structure occupied for sleeping or eating purposes, but not including accessory structures such as barns or outbuildings, existing at the date of application.

15. Blasting activities shall be conducted so that ground vibrations comply with all state laws about peak particle velocity, air pressure, and other state requirements of the Office of Surface Mining U.S. Department of Interior, 1987 ed., Explosives: WAC 296-52-493, Part F.

16. The improvements to the quarry's access identified in the Traffic Analysis conducted by CTS Engineers, dated June 6, 2006, shall be implemented.

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17. Reclamation of the site shall be in accordance with Washington Department of Natural Resources surface mining reclamation permit.

18. All proposed activities shall be consistent with the creation of new surface mining areas or expansion of the surface mining areas subject to LCC Chapter 17.115.030(14).

19. Noise levels shall comply with state maximum permissible noise levels as outlined in WAC 173-60-040.

20. A consistent dust abatement program shall be approved, implemented and maintained during all hours of mining operations. This program shall include the mining site and access roads to reduce any impacts to adjacent properties as required by LCC 17.115.050(c).

21. Buried tanks of any petroleum or hazardous materials shall be prohibited unless the tanks are double-walled and equipped with a leakage monitoring systems. Installation of the system shall be certified by the Property owner or his/her agent. Placement of any buried tanks shall be undertaken only when approval is granted by Lewis County, Environmental Services Division.

22. Oil-water separators shall be required for impervious surface areas 5,000 square feet or larger.

23. All development must comply with the requirements of Seismic Risk Zone 3.

24. The subject property is adjacent to a designated Forest Resource Land. All structures shall maintain a minimum setback of 150 feet from property lines, except for structures not requiring building permits, and 200 feet for all wells, and non-exempt uses and activities in LCC 17.30.440-.480.

25. All development shall conform to the requirements of the RDD Zoning District per LCC Title 17, Zoning.

26. The proposed activity is of a high intensity use and shall comply with LCC 17.35, Critical Areas.

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27. All best management practices (BMP's) for erosion and sediment control shall be implemented for all related mining activities.

28. The Applicant shall implement the conditions for development for the CARL review, CL05-00988.

29. The Applicant shall obtain an approved Class B Public Water Supply.

30. The Applicant shall obtain an approved septic disposal system.

31. Operations shall not occur prior to 7:00 a.m. nor after 5:00 p.m., Monday through Friday.

32. Operations shall not occur on weekends with the exception that Lewis County may allow for operations on one Saturday per month upon the Applicant demonstrating to the County that an emergency need exists or that maintenance operations are necessary and cannot be normally performed during normal operating hours.

(33) The Applicant shall install a seismograph on the property of Danon McMahan for the purpose of determining the seismic impact to Mrs. McMahan's property from each blasting event. The Applicant will advise Mrs. McMahan and the County of the results of these seismograph tests.

34. Before the Applicant is allowed to commence operations Lewis County shall first inspect the site and determine that there are no present operations within the designated buffer areas. Any operations found within the buffer areas shall be removed and the buffer restored prior to the commencement of operations.

35. The Applicant shall, at all times, have a designated representative who shall be available to respond to all questions and concerns of adjoining landowners and the County. The designated representative shall respond to all such questions or concerns within twenty-four hours of contact. The initial designated representative for the Applicant is Bart Lyons.

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DATED this 19 day of October, 2006.

Mark C. Scheibmeir
Lewis County Hearing Examiner

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299 N.W. CENTER ST. / P.O. BOX 939
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LEWIS COUNTY COMMUNITY DEVELOPMENT
2025 NE Kresky Avenue
Chehalis, WA 98532
(360) 740-1146

SEWER AVAILABILITY APPROVAL

To be completed by applicant:

Applicant Name: _____ Phone # _____

Mailing Address: _____
Street City/State/Zip

Applicant Signature: _____ Date: _____

Site Address: _____
Street City

To be completed by authorized sewer system personnel:

The above named applicant has submitted a development permit application requiring verification of a valid sewer connection. Please review the information provided and determine if all appropriate fees have been paid and the connection is authorized.

Proposed development _____

Tax Parcel #_____ **Site Location**_____

System Name: _____

This system has authorized a connection and will provide service to the site and project listed above: Yes _____ **No** _____ **Connection #** (if applicable) _____

This property is located at the address listed at the top of this page. All fees have been paid and the connection is authorized.

Signature/Title: _____ **Date:** _____
Signature of authorized sewer district employee

Once this section is complete please return this form to Lewis County Community Development at the address located above. Thank you.

To be completed by Permit Technician:

Project Description: _____

Permit/Application # _____
Subdivision/MHP Name: _____ Lot/Space # _____
Subdivision/MHP # _____ PT initials: _____

LEWIS COUNTY ENVIRONMF "AL SERVICES

PUBLIC WATER AVaiLABILITY NOTIFICATION

$80.00 Fee

(Please Print)

WAN #: _____ **Development Permit No.:** _____

PROPERTY LOCATION: _____

Applicant's Name [as listed on application] _____

Applicant's Mailing Address: _____
Street City Zip

_____
Applicant's Signature

MARK AND COMPLETE ONLY ONE: CHOICE A or B

CHOICE A (Shared Water Supply only 2 residential connections) *(To be completed by applicant)*

The shared water supply will provide water to: (*check one - fill in the blanks*)

☐ Tax Parcel #_____ Lot #_____

☐ Short Plat #_____ Lot # _____

The residence is located at the address listed at the top of this page. The well supplying water for this system is located on: (*check one fill in the blanks*)

☐ Tax Parcel #_____ Lot #_____

☐ Short Plat #_____ Lot # _____

Signature of Applicant_____ Date: _____

DEPARTMENT USE ONLY:

[ ] Yes [ ] No The shared well WS#_____has met the Lewis County Shared well policy, ES Instruction #1-97 and is approved to supply water to two residential connections located as described in this document. This approval is not a certification of the present water quality.

SIGNATURE/TITLE: _____ **DATE:** _____

CHOICE B (Public/Community Water Supply) (*To be completed by a water purveyor.*)

System Name: _____ **ID #** _____ **Group A or B:** _____

Membership/Account #_____

This system is capable of and will supply water to: (check one fill in the blanks)

☐ Tax Parcel #_____ Lot or Space # _____

☐ Short Plat #_____ Lot or Space # _____

This property is located at the address listed at the top of this page. All fees have been paid and the connection is authorized

Signature/ Title:_____ Date: _____

Note: Water Connection Approval for public/community well is valid for only one year of date of Health Department Approval below.

DEPARTMENT USE ONLY:

[ ] Yes [ ] No This public water supply is in substantial compliance with WAC 246-290 Group A or WAC 246-291 Group B and is adequate/approved to furnish water for this connection

SIGNATURE/TITLE:_____ DATE_____

Permit Technician_____ **Reconnection Yes**___ **No** ____

LEWIS COUNTY DEPARTMENT OF COMMUNITY DEVELOPMENT
ADEQUATE FACILITIES REQUIREMENTS- FIRE

Date: _____

Fire District: _____

Dear Commissioner or Fire Chief;

We are requesting a land use permit for_____

_____

_____

located at_____

which lies within your district. Please respond below, by checking the appropriate box to indicate whether or not your district has the capacity to serve the proposal or will have at the time of development. Thank you for your time.

Sincerely,

(Applicant)

☐ Yes, we have the capacity to serve the proposed development, or will have capacity at the time it is developed.

☐ No, we do not have the capacity to serve the proposed development

Signed: _____ Date: _____

LEWIS COUNTY DEPARTMENT OF COMMUNITY DEVELOPMENT
ADEQUATE FACILITIES REQUIREMENTS- REFUSE DISPOSAL

Date: _____

Disposal Company: _____

To Whom It May Concern:

We are requesting a land use permit for_____

_____

_____

located at_____

which lies within your district. Please respond below, by checking the appropriate box to indicate whether or not your district has the capacity to serve the proposal or will have at the time of development. Thank you for your time.

Sincerely,

(Applicant)

☐ Yes, we have the capacity to serve the proposed development, or will have capacity at the time it is developed.

☐ No, we do not have the capacity to serve the proposed development

Signed: _____ Date: _____

LEWIS COUNTY DEPARTMENT OF COMMUNITY DEVELOPMENT
ADEQUATE FACILITIES REQUIREMENTS- SCHOOLS

Date: _____

School District: _____

To Whom It May Concern:

We are requesting a land use permit for_____

_____

_____

located at_____

which lies within your district. Please respond below, by checking the appropriate box to indicate whether or not your district has the capacity to serve the proposal or will have at the time of development. Thank you for your time.

Sincerely,

(Applicant)

☐ Yes, we have the capacity to serve the proposed development, or will have capacity at the time it is developed.

☐ No, we do not have the capacity to serve the proposed development

Signed: _____ Date: _____

LEWIS COUNTY DEPARTMENT OF COMMUNITY DEVELOPMENT
ADEQUATE FACILITIES REQUIREMENTS- POLICE

Date: _____

Police Department: _____

Dear Sheriff or Police Chief;

We are requesting a land use permit for_____

_____

_____

located at_____

which lies within your district. Please respond below, by checking the appropriate box to indicate whether or not your district has the capacity to serve the proposal or will have at the time of development. Thank you for your time.

Sincerely,

(Applicant)

☐ Yes, we have the capacity to serve the proposed development, or will have capacity at the time it is developed.

☐ No, we do not have the capacity to serve the proposed development

Signed: _____ Date: _____

Attachment 2

Karen Witherspoon

(10)

From:	Cheryl McGee <mcgee52@hotmail.com>
Sent:	Wednesday, November 27, 2019 3:28 PM
To:	Karen Witherspoon
Cc:	chris bradshaw
Subject:	[Spam?] SUP19-0002 / Good Quarry Expansion
Importance:	Low
Follow Up Flag:	FollowUp
Flag Status:	Flagged

RECEIVED
NOV 27 2019
BY:_____

I'm submitting comments on behalf of Evaline School District regarding the proposed expansion of Good Quarry under SUP19-0002. Evaline School is a K-6 facility located on Schoolhouse Road approximately .4 miles east of the existing Good Quarry site access off Tennessee Road.

While we have not previously experienced any issues created by traffic from the current operation at Good Quarry, as most haul trucks seem have been routed from Tennessee Road to either Hale Road E. or Pleasant Valley Road. We would ask that notice of the school location be made and would request that haul traffic continue to be routed away from Schoolhouse Road as much as possible, specifically during the morning and afternoon hours when students and staff would generally be coming to and going from the school grounds.

Thank you for the opportunity to comment on this proposed expansion project.

Cheryl McGee, Board Chairman
Evaline School District

Attachment 3

PHOENIX FOR ADVANCED LEGAL & ECONOMIC CENTER PUBLIC POLICY STUDIES
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PHOENIX CENTER POLICY PAPER SERIES

Phoenix Center Policy Paper Number 53:

Quarry Operations and Property Values: Revisiting Old and Investigating New Empirical Evidence

George S. Ford, PhD
R. Alan Seals, PhD

(March 2018)

Phoenix Center Policy Paper No. 53
Quarry Operations and Property Values: Revisiting Old and Investigating New Empirical Evidence

George S. Ford, PhD†
R. Alan Seals, PhD•

Abstract: A large literature exists on the impact of disamenities, such as landfills and airports, on home prices. Less frequently analyzed is the effect of rock quarries on property values, and what little evidence is available is dated and conflicting. This question of price effects is a policy relevant one, with one study in particular used frequently to support "not in my backyard" campaigns against new quarry sites. In this POLICY PAPER, we revisit the literature and conduct a new analysis of the price effects of quarries, estimating the effect of quarries on home prices with data from four locations across the United States and a wide range of econometric specifications and robustness checks along with a variety of temporal circumstances from the lead-up to quarry installation to subsequent operational periods. We find no compelling statistical evidence that either the anticipation of, or the ongoing operation of, rock quarries negatively impact home prices. Our study likewise highlights a number of shortcomings in the empirical methodologies generally used to estimate the effect of disamenities on real estate prices. First and foremost, many existing studies are naïve as to the empirical conditions necessary to identify a causal relationship and do not establish credible strategies to estimate the counter-factual outcome. Second, the inclusion of "distance to the site" regressors in hedonic models is shown to be an unreliable statistical method. Using the method of randomized inference, the null hypothesis of "no effect" of placebo quarries is rejected in as much as 93% of simulations.

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† Chief Economist, Phoenix Center for Advanced Legal & Economic Public Policy Studies. The views expressed in this paper are the authors' alone and do not represent the views of the Phoenix Center or its staff.

• Adjunct Fellow, Phoenix Center for Advanced Legal & Economic Public Policy Studies; Associate Professor of Economics and Director of Graduate Studies – Auburn University.

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I. Background

Odds are that underneath your feet is a construction material made of sand, crushed stone, and gravel. These construction materials are an essential ingredient into nearly every construction project, from residential housing, office buildings, retail outlets, entertainment structures, to the roads that connect them.[1] Sand, rock and gravel are literally the foundation of economic development, but their extraction process can generate dust, noise, vibration, and truck traffic. While modern technologies and methods have greatly reduced quarries' impact, the environmental and economic consequences of quarry operations receive considerable attention, often in the form of "not in my backyard" (or "NIMBY") campaigns opposing quarry expansions or new sites. Choosing a quarry site is a delicate task. While a quarry may be best located far from residential density on NIMBY concerns, it also needs to be near the final point of demand due to its high transportation cost. Quarries must balance the need to be both "near" and "far," so they are typically found on the outskirts of cities and towns.

A key NIMBY complaint in the siting and expansion of quarries is the effect of the operations on nearby home values. According to Census data, housing amounts to about 70% of the average American's net wealth, so naturally homeowners are sensitive to any adverse effect, real or imagined, on property values.[2] Despite NIMBY opposition, nearly all the evidence on quarry operations finds no price effect. Frequently mentioned studies include Rabianski and Carn (1987) and Dorrian and Cook (1996), both of which find no relationship between appreciation rates of property values near to and far from quarries.[3] An

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[1] *2014 Minerals Yearbook, Construction Sand and Gravel*, U.S. Geological Survey (2014) at p. 1 (available at: https://minerals.usgs.gov/minerals/pubs/commodity/sand_&_gravel_construction/myb1-2014-sandc.pdf) ("Construction sand and gravel is a traditional basic building material and is one of the earliest materials used by humans for dwellings and later for outdoor areas such as paths, roadways, and other constructs. Despite the relatively low, but increasing, unit value of its basic products, the construction sand and gravel industry is a major contributor to and an indicator of the economic well-being of the Nation").

[2] *Wealth, Asset Ownership, & Debt of Households Detailed Tables: 2013*, U.S. Census Bureau (2017) (available at: https://www.census.gov/data/tables/2013/demo/wealth/wealth-asset-ownership.html).

[3] A.M. Dorrian and C.G. Cook, *Do Rock Quarry Operations Affect Appreciation Rates of Residential Real Estate*, Working Paper (1996); J. Rabianski and N. Carn, *Impact of Rock Quarry*

(Footnote Continued. . . .)

even earlier study conducted for the U.S. Bureau of Mines in 1981 also found no consistent relationship between quarry operations and the prices of nearby homes.[4] There are a number of consulting reports on the question, and none report price attenuation attributable to a quarry.[5]

Opposition to quarries based on home valuations relies universally on a report by Professor Patricia Hite (2006).[6] This brief, 250-word study (hereinafter the "*Hite Report*") analyzes data from a few thousand homes sales (apparently in the mid-to-late 1990s) around a single quarry in Delaware, Ohio. Using an unconventional regression model and data on transactions occurring decades after the quarry opened, the *Hite Report* finds a positive relationship between home prices and distance from the quarry. Based on that evidence, the *Hite Report* concludes that quarries reduce home values. Yet, the *Hite Report*'s methods and data do not support a causal interpretation.

As economic development marches on, new quarries will be required to satisfy the demand for basic building materials. In light of the mostly dated and conflicting evidence on the effect of quarries on housing prices, this POLICY PAPER offers new evidence, and a review of old evidence, on the relationship between housing prices and rock quarries. First, given its frequent use by NIMBY opposition to quarries, we revisit the *Hite Report*, analyzing home sales data

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Operations on Value of Nearby Housing, Prepared for the Davidson Mineral Properties (August 25, 1987).

[4] M. Radnor, D. Hofler, *et al.*, *Social, Economic and Legal Consequences of Blasting in Strip Mines and Quarries*, U.S. Bureau of Mines (May 1981) (available at: http://www.cdc.gov/niosh/nioshtic-2/10006499.html).

[5] *See*, *e.g.*, *Study of Impact of Proposed Quarry on The Real Estate Values of Surrounding Residential Property in Raymond, New Hampshire*, Crafts Appraisal Associates Ltd. (April, 2009) ("The evidence does however suggest that the overall marketplace does not react to an influence such as a quarry with a measurable negative reaction as it relates to sale price."); *Martin Marietta New Design Quarry: Analysis of Effect on Real Estate Values*, Stagg Resources Consultants, Inc. (November 17, 2008); *A Property Valuation Report: Affect [sic] of Sand and Gravel Mines on Property Values*, Banks and Gesso, LLC (October 2002); *Impacts of Rock Quarries on Residential Property Values in Jefferson County, Colorado*, Banks and Gesso, LLC (May 1998); R.J. McKown, *Analysis of Proposed Sand & Gravel Quarry: Granite Falls, WA*, Schueler, McKown & Keenan, Inc. (September 25, 1995).

[6] D. Hite, *Summary of Analysis: Impact of an Operational Gravel Pit on House Values: Delaware County, Ohio*, Working Paper (2006). We assign the date "2006" as is conventional, but that year is merely the recording stamp date on the document when it was filed in some type of proceeding. We do not know whether a more detailed analysis was provided at some point. We have never seen such a document cited and were unable to locate it.

around the same Delaware-Ohio quarry. Despite replicating both the location and methods of the *Hite Report*, our regression analysis finds that prices *fall*—not rise—as distance from the quarry increases. This result conflicts with that appearing in the *Hite Report*, so we look for more evidence by analyzing data on homes sales near a quarry outside of Murfreesboro, Tennessee, over the same time interval. Again, we find prices *fall* as distance from the quarry increases.

We are reluctant, however, to claim this evidence implies quarries raise home prices. Rather, we conclude, based on the method of randomized inference and other tests, that the *Hite Report*'s method is unreliable. Using a simulation of pseudo-treatments, we find that the null hypothesis that home prices rise or fall in distance from a *randomly selected location* is rejected in no less than 67% of cases at the 10% nominal significance level. Estimating price-distance relationships, especially without explicitly considering selection bias, is a highly-unreliable statistical procedure. The nature of real estate markets do not permit the effect of quarries to be identified with such naïve empirical tests.

Second, using data on home sales near a relatively new quarry in Gurley, Alabama, we augment the Hite-style analysis with a difference-in-differences estimator, which quantifies the price-distance relationship both before-and-after operations begin. By exploiting the timing of the quarry buildout and the location of home sales with respect to the quarry, we can credibly identify a causal relationship, at least in theory. Unlike the analysis for Delaware and Murfreesboro, home prices rises in distance from the Gurley quarry site, but do so *before* the quarry becomes operational. After operations begin in 2013, the positive effect of distance is attenuated, again suggesting a positive effect of quarries on housing values.

One critique of our Gurley analysis is that market participants shift price forecasts downward in response to the prospect of a quarry so that the deleterious effects of the quarry could be realized before the quarry opens. Quarry site approvals normally take a decade or so, providing ample time for anticipatory responses to valuation fears. To address this concern, we analyze transactions near a recently approved quarry in Madera County, California. Using a difference-in-differences estimator in conjunction with Coarsened Exact Matching, we test for the anticipatory effect of the proposed quarry on nearby housing prices located along the major roadways serving the site. We find no evidence the quarry reduced housing prices. If anything, relative home prices rose near the quarry site.

While our evidence suggests that quarries do not reduce, but may increase, home prices, our analysis suggests more than anything that the identification of

the effect of quarries on prices is a very difficult problem, facing many conceptual and practical obstacles. We do not resolve all these difficulties. That said, we can conclude the evidence strongly implies the *Hite Report* and its methods are unreliable. Further analysis is, as usual, encouraged.

This paper is outlined as follows. First, we discuss the empirical requirements of quantifying a plausibly causal relationship between property values and quarry operations. Second, we revisit the *Hite Report*, estimating the price-distance relationship for the same quarry in Delaware, Ohio, and replicating the analysis for a quarry near Murfreesboro, Tennessee. Using a simulation method, we demonstrate the futility of estimating the price effects of quarries using the method proposed in the *Hite Report*. Third, we turn to the estimation of causal effects using the difference-in-differences estimator for quarry sites in Gurley, Alabama, and Madera County, California. Across multiple methods, we find, if anything, that home prices near quarries rise, not fall. In all, however, we believe our analysis best supports the hypothesis of "no effect" of quarries, or the announcement of quarries, on home prices. Conclusions are provided in the final section.

II. Empirical Framework

Disamenities such as landfills, airports, windfarms and prisons may plausibly reduce the prices of nearby homes. Such effects have been widely studied.[7] Modern empirical methods for observational data based on the Rubin Causal Model, however, suggest that much of the work may offer biased estimates of such disamenities because much it looks only at prices after the "treatment," making it difficult to address selection bias.[8] To conclude that a disamenity reduces home values, the researcher's interest must be in the *causal effect* of an amenity or disamenity on property values. Using only post-treatment prices is problematic since the locations of amenities and disamenities are not randomly selected, and

[7] Other disamenities that may affect property values, airports and waste disposal, are frequently opposed by homeowners. *See, e.g.*, J.P. Nelson, *Airport and Property Values: A Survey of Recent Evidence*, 14 JOURNAL OF TRANSPORT ECONOMICS AND POLICY 37-52 (1980) (available at: http://www.bath.ac.uk/e-journals/jtep/pdf/Volume_X1V_No_1_37-52.pdf); J.B. Braden, X. Feng, and D. Won, *Waste Sites and Property Values: A Meta-Analysis*, 50 ENVIRONMENTAL AND RESOURCE ECONOMICS 175-201 (2011).

[8] Excellent resources on the modern methods of causal inference for economic analysis include G.W. Imbens and J.M. Wooldridge, *Recent Developments in the Econometrics of Program Evaluation*, 47 JOURNAL OF ECONOMIC LITERATURE 5-86 (2009); J.D. Angrist and J. Pischke, MOSTLY HARMLESS ECONOMETRICS: AN EMPIRICIST'S COMPANION (2008); and J.D. Angrist and J. Pischke, MASTERING 'METRICS: THE PATH FROM CAUSE TO EFFECT (2015).

disamenities are typically located away from residential density to minimize impact and to placate NIMBY resistance.

The non-random selection of a quarry site greatly complicates the quantification of a quarry on housing prices due to selection bias. Finding that housing prices rise at increased distance from a quarry may merely reflect the economics of site choice (i.e., real estate is cheaper per unit in less densely populated areas on the outskirts of town) rather than any causal effect on property values. Also and consequently, empirical work may be frustrated by the lack of housing density near the site, rendering small sample sizes, which may, in turn, lead to the undue influence of outliers. Many quarries, especially new ones, have almost no housing within a mile or two of the site (the typical distance within which negative effects are claimed), as shown in the maps provided in the Appendices. And, given the lengthy approval process, if a quarry does affect housing prices, then such effects may occur prior to operations by an "announcement effect." In conducting empirical work on quarries and housing prices, the researcher must address, and deal with the theoretical and empirical consequences of, the non-random nature of site location.

A. *Quantifying the Effect of a Quarry on Housing Prices*

Resistance to new quarry sites (or the expansions of old ones) based on property values rests exclusively on the *Hite Report*. In that report, the effect on prices is quantified by comparing the mean, quality-adjusted transactions prices around the quarry outside of Delaware, Ohio, as the home's distance from the quarry increases. This "experiment," however, has little hope of accurately measuring the effect of quarries on home prices.

To better grasp the nature of the problem, let there be two types of residential locations: (1) locations proximate to and potentially affected by quarry operations (labeled *N*, for "near"); and (2) locations distant from and entirely unaffected by quarry operations (labeled *F*, for "far"). Also, let there be two periods: the period prior to ($t = 0$) and after ($t = 1$) the initiation of quarry operations. For now, assume the approval process is instantaneous and that the quality and type of homes in the two locations are very similar (or, that such differences can be accounted for by statistical methods).

Prior to quarry operations homes sell for the average price P_0^N if near the future location of the quarry and P_0^F otherwise. (A numerical example is provided later.) For various reasons, these prices need not be equal. After quarry operations begin, the average, quality-adjusted prices for houses are P_1^N and P_1^F. The

differences in the prices across time (P_1 - P_0) are δ^N and δ^F. Other things constant, the effect of the quarry operations can be measured as,

$$\Delta = \delta^N - \delta^F = \left(P_1^N - P_0^N\right) - \left(P_1^F - P_0^F\right), \quad (1)$$

where Δ is the difference-in-differences ("DiD") estimator.[9] The DiD estimator looks for a difference in outcomes after the treatment that is difference than the differences in outcomes before the treatment (thus, explaining the term difference-in-differences). Under certain conditions, the DiD estimator plausibly measures the causal effect of the quarry.

Many studies of the effect of amenities or disamenities on housing values looks only at the difference between *near* and *far* locations in the *post-treatment* period, or the difference in P_1^N and P_1^F (or δ_1). This post-treatment approach is the one used in the *Hite Report*, where all the data is from sales decades after the quarry operations began. If, however, there is a difference in prices before the quarry operations begin, this post-operations difference is clearly not a measure of the effect of proximity to the quarry. A numerical example may prove helpful.

B. *A Numerical Example*

Before a quarry opens, assume the average, quality-adjusted price for a home near the quarry site is $80,000, but the average price is $100,000 for homes far from the future quarry site. Thus, there is a $20,000 or 20% difference in prices prior to quarry operations, perhaps reflecting the lack of locational rents for homes far from residential density. Plainly, since quarry operations have not begun, this difference cannot be attributed to the quarry. In fact, the quarry site may have been chosen because of the lower property values or lack of residential housing in the area.

As a benchmark case, say that the quarry operations once initiated have *no effect* on property values and the sales prices of homes are unchanged after quarry operations begin ($80,000 and $100,000, respectively). If a researcher were to

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[9] *See*, *e.g.*, B.D. Meyer, *Natural and Quasi-Experiments in Economics*, 13 JOURNAL OF BUSINESS & ECONOMIC STATISTICS 151-161 (1995); J.D. Angrist and A.B. Krueger, *Empirical Strategies in Labor Economics*, in HANDBOOK OF LABOR ECONOMICS Vol. 3A (eds., O. Ashenfelter and D. Card) (1999); S. Galiani, P. Gertler, and E. Schargrodsky, *Water for Life: The Impact of the Privatization of Water Services on Child Mortality*, 113 JOURNAL OF POLITICAL ECONOMY 83-123 (2005); D. Card, *The Impact of the Mariel Boatlift on the Miami Labor Market*, 13 INDUSTRIAL AND LABOR RELATIONS REVIEW 245-257 (1990).

simply compare prices based on distance from the quarry after operations begin, then a difference of 20% would be found. Yet, that difference existed prior to the quarry's opening, and thus the quarry did not *cause* that difference, implying any causal claim made about that difference is mistaken. The truth (by assumption) is that the quarry had *no effect*. The DiD estimator (Δ) is, in fact, zero, correctly identifying the causal effect of the quarry [= (80,000 – 80,000) – (100,000 – 100,000)].

Assume instead that the quarry does reduce prices for nearby homes. Let the post-quarry average prices be $70,000 near and $100,000 far from the quarry, other things constant.[10] Prices near the quarry fall by $10,000 and those far from the quarry are unchanged. The DiD estimator accurately quantifies the effect of the quarry, which is a $10,000 reduction in value [= (70,000 – 80,000) – (100,000 – 100,000)]. Looking at data after the quarry operations begin, alternately, which is the *Hite Report*'s approach, would find an effect size of $30,000 [=70,000 – 100,000], or three times the true effect. Selection bias accounts for the $20,000 error in the estimated effect.

Ideally, then, to properly identify the causal effect of a quarry operation, the researcher must observe prices both before and after the quarry may reasonably be expected to affect housing prices (among other considerations such as the similarity in pricing trends prior to the treatment). The analysis of transactions occurring well after the quarry opens offers little hope for quantifying the effect of the quarry, absent unique circumstances. Certainly, the empirical demands are considerable, and the identification of the causal effect must be explicitly set forth and proper empirical methods applied.

C. *Key Assumptions for Estimating Causal Effects*

With regard to the location of homes and quarries, we do not have the luxury of experimental data. Rather, the data is observational and the data generation process occurs over many decades. The observational nature of the data is crucial: quarry site and housing locations are non-random and not independent of economic activity near the site or each other. Thus, research on the price effects of quarry sites must pay careful attention to selection bias, which is caused by the non-random process by which sites are chosen to avoid residential density but still

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[10] For instance, a large condominium complex may have built near the quarry. The researcher must adjust for the difference in average prices resulting from this changing mix of household types).

(Footnote Continued. . . .)

remain close to the point of demand for aggregates (i.e., sand, stone and gravel). Thus, the "treatment" and "outcome" are related through observed and potentially unobserved factors.[11]

As explained by Imbens and Wooldridge (2009), when estimating the causal treatment effect in observational studies the researcher must be alert to two key concepts stemming from selection bias: (1) unconfoundedness (or the conditional independence assumption) and (2) covariate overlap (or common support).[12] Unconfoundedness implies that, conditional on observed covariates *X*, the treatment assignment probabilities are independent of potential outcomes. If we have a sufficiently rich set of observable covariates, then regression analysis including the variables *X* leads to valid estimates of causal effects. Since the *X* must be observed to be included in the regression model, this approach is often referred to as *selection on observables*. It is difficult to know and impossible to test whether the observed and included *X* are sufficient to guarantee unconfoundedness (so the regression error and treatment are uncorrelated), though some guidance is available through pseudo-treatment tests (as applied later).

The conditional independence assumption (or *unconfoundedness*) implies that the observed factors included in the statistical analysis fully account for all the differences in the types of homes sold both near and far from the quarry (or other site of interest).[13] In quantifying the effect of education on income, for instance, it is not enough to simply compare the incomes of persons with and without a college education. Work ethic, for instance, affects both the probability that a person will obtain a college degree and his or her future income. A hard-working person may earn a higher income even without a college education. If work ethic cannot be observed, then a comparison of average incomes across those with and without a college degree does not measure the true value of a degree. The difference is a positively biased estimate of the payoff of education.

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[11] In regression analysis, this problem appears as a correlation between the regression residual and the treatment variable.

[12] *Supra* n. 8.

[13] That is, the regression model includes all the regressors needed to make the conditional *near* and *far* prices equal prior to the treatment.

(Footnote Continued. . . .)

The second factor to consider for the measurement of the causal effect is covariate overlap, which Imbens and Wooldridge (2009) observe is, after unconfoundedness, the "main problem facing the analyst."[14] This condition implies that the support of the conditional distribution of *X* for the control group overlaps completely with the conditional distribution of *X* for the treatment group. That is, the covariate distributions for the treated and untreated groups are sufficiently alike, thereby lending credibility to the extrapolations inherent to regression analysis between groups. If the characteristics of untreated observations (home *far from* the quarry) are very different from the treated observations (homes *near to* the quarry), then the projections from the controls to the treated units will be a poor one.

Say, for instance, that a sample used to assess the effect of an experimental cancer treatment includes only persons over 65 years old in the experimental treatment group (or simply treatment group) and only persons below 45 years old in the non- treatment group (or control group). The purpose of the control group is not simply a counterweight to the treatment group. Rather, the control group measures the outcomes for the treated group if that group did not receive the treatment. To fix ideas, what we actually want to estimate is what would the treatment group have looked like had they not been treated, which is the sole purpose of a control group. It is unreasonable to expect, we believe, that the survival outcomes of 45 year-old persons provides an approximation of survival outcomes of persons 65 years and over that did not receive the experimental treatment. To extrapolate this discussion to the case of housing values, if the control group includes almost all homes in a golf course community with swimming pools and the treatment group—the properties near some dis-amenity—includes mostly one-bedroom condominiums, then the difference in sale prices between the two is a nearly meaningless statistic. Regression models are powerful tools, but they cannot make up of for such large differences in characteristics across treatment and control groups (even if observable and included in the regression model as explanatory variables), which is important given that the control group is being "projected" onto the treatment group.

A number of statistical techniques are used to address confoundedness and covariate imbalance in observational studies. In a housing study, for instance, a researcher may choose the control group by finding a group of homes comparable to the treatment group—that is, similar square footage, amenities, lot sizes—from a population of homes unaffected by the treatment. This approach, which we

[14] Imbens and Wooldridge, *supra* n. 8 at 43.

employ here, ensures that the characteristics of homes in the treatment and control groups are sufficiently similar, adding credibility to the control group as a suitable "stand in" for the treatment group if it had not received the treatment.

The *Hite Report* is silent on both of these key assumptions, and there is good reason to suspect the analysis fails on both counts. All the pricing data is for home sales occurring long after the quarry operation began and the regression model is quite basic, so the experiment is almost certainly plagued with selection bias. As for covariate overlap, from what few descriptive statistics are provided in the *Hite Report* we observe that the range of home prices within 0.5 miles of the quarry has a minimum of $80.1 and a maximum of $178.9 (in thousands). In contrast, the range of prices for homes further from the quarry is $60 to $798.6. This difference in the maximum prices is sizable, suggesting that the homes near the quarry may be very much unlike those far from the quarry, thus risking biased results of the effect of distance.

III. Revisiting the *Hite Report*

In NIMBY campaigns challenging quarry development, the *Hite Report* is the sole empirical analysis supporting the claim that quarries reduce housing prices. Subsequent works by Erickcek (2006), the Center for Spatial Economics (2009), Smith (2014), among others, conduct no new empirical analysis, choosing instead to extrapolate the *Hite Report*'s results to different locations (a questionable practice on its own).[15]

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[15] G.A. Erickcek, *An Assessment of the Economic Impact of the Proposed Stoneco Gravel Mine Operation on Richland Township*, W.E. Upjohn Institute for Employment Research (August 15, 2006) (available at: http://www.stopthequarry.ca/documents/US%20Study%20on%20the%20impact%20of%20pits%20quarries%20on%20home%20prices.pdf); *The Potential Financial Impacts of the Proposed Rockfort Quarry*, Center for Spatial Economics (February 26, 2009) (available at: http://wcwrpc.org/FinancialImpacts_RockfortQuarryCanada.pdf); G. Smith, *Economic Costs and Benefits of the Proposed Austin Quarry in Madera County,* Report (October 23, 2014) (available at: http://www.noaustinquarry.org/wp-content/uploads/2016/08/Austin-Quarry-Economics-Report.pdf). Other works relying on the *Hite Report* (directly or indirectly) include, *e.g.,* M. Conklin, *et al., The Quarry Proposed by St. Marys Cement Inc. for a Location Near Carlisle, Ontario Should Not be Permitted: Proponents' Brief*, 5 STUDIES BY UNDERGRADUATE RESEARCHERS AT GUELPH (2011) (available at: https://journal.lib.uoguelph.ca/index.php/surg/article/view/1338/2345); *Business Suirvey and Economic Assessment of Locating a Quarry and Asphalt and Cement Plants within Aeortech Park*, Group ATN Consulting, Inc. (October 13, 2014) (available at: http://stopthefallriverquarry.com/wp-content/uploads/2015/10/GATN_Aerotech_Park_FINAL_Report_Oct_13_2015-2.pdf); M.A. Sale,

(Footnote Continued. . . .)

This uniform reliance on the *Hite Report* is somewhat surprising. On the face of it, the report is a seven-page document consisting of 1.5 pages of double spaced text (about 250 words) along with a few tables and figures. It is more an "abstract" than it is a "study." Moreover, even a brief review of the *Hite Report* points to a number of serious problems that should give any researcher pause. First, there are almost no details regarding model specification and few details on the data used. Not even descriptive statistics are provided. Second, the choice of model specification is entirely ad hoc, treating nearly identical variables (distance) differently with respect to functional form and using a non-standard and unnecessary estimation procedure. Such inconsistent, unconventional and inconvenient choices are symptomatic of ends-driven analysis. Third, no explanation is provided as to how the chosen model and analysis of transactions occurring decades after the quarry operations began might identify the effect of *that particular* quarry (or any new quarry) on housing prices. Selection bias is clearly a concern, but it is neither mentioned nor addressed. Fourth, no analysis is provided to suggest that the homes near the quarry are sufficiently similar to those distant from the quarry to provide reliable estimates of the effect of distance (i.e., covariate overlap). Comparing prices of the homes in rural areas on the outskirts of town to those near the local university risks confusing the vagaries of real estate development with the impact of the quarry.

Setting aside the question of causality for the moment, whether the relationship estimated in the *Hite Report* can be replicated is an important first step in evaluating the report's credibility and the suitability of the methods used to answer this policy-relevant empirical question. To that end, we collect data on home sales within five-miles of the same quarry in Delaware, Ohio, evaluated in the *Hite Report*.[16] It appears the data from the *Hite Report* was from the 1990's (though it is impossible to be certain given the lack of detail), so we collect data on

Quarry Bad for Area, THE NEWS & ADVANCE (September 28, 2008) (available at: http://www.newsadvance.com/opinion/editorials/letters-to-the-editor-for-sunday-september/article_ca388ca4-14c7-534b-9b17-1b78d1cecc40.html).

[16] Data is obtained from www.agentpro247.com. For all our analysis, we limit the prices to greater than $25,000 and less than $1,000,000, and look only at the "full" sales of single-family homes not in distress. The National Lime & Stone Quarry near Delaware, Ohio, is located near Latitude 40.281005 and Longitude -83.135828.

(Footnote Continued. . . .)

sales over the ten-year period 1998 through 2007.[17] These data appear to immediately follow that used in the *Hite Report* but precedes the housing market crash in 2008 and the broader economic malaise that followed.[18] For further analysis, we also collect data on sales near a quarry outside of Murfreesboro, Tennessee, over the same ten-year period.

A. *A Review of Empirical Methods*

To reproduce the *Hite Report*'s analysis, we obtain transactions prices on 2,114 single-family homes between 1998 through 2007 that are located within five miles of the National Lime & Stone Quarry near Delaware, Ohio. Using latitude and longitude coordinates, distance from each home to the center the quarry (*D*) is calculated. Other explanatory variables used the *Hite Report* include, for each transaction, the sale date (*DATE*), the distance to Delaware City (*DDC*), the house-to-lot size (*H2L*), the number of bathrooms (*BATH*), and the number of total rooms (*TOTR*). We measure the sale date as the year of sale; the *Hite Report* does not indicate how the sale date is measured.[19]

The regression model of the *Hite Report* takes the following general form,

$$p_{it} = \exp(\delta_1 \ln D_i + \beta_0 + \sum_{j=1}^{k} \beta_j X_{j,i}) + \varepsilon_{i,t}, \quad (2)$$

where p_{it} is the transaction price (in thousands) for home i at time t, $\ln D$ is the natural log of distance from the quarry (in miles), and X_j are the k regressors listed above (with coefficients β_j as coefficients).[20] For reasons unexplained in the *Hite Report*, only the distance from the quarry is transformed by the natural log

[17] *See also* D. Hite, *The Impact of the Ajax Mine on Property Values*, ARMCHAIRMAYOR.CA (March 5, 2015) (available at: https://armchairmayor.ca/2015/03/05/letter-the-impact-of-the-ajax-mine-on-property-values) (stating that the analysis was completed in 1996-1998).

[18] Our data source does not offer data in the early-to-mid 1990s, so we cannot replicate the same time period as the *Hite Report*. We are trying to obtain such data for further analysis.

[19] It is preferred to measure *DATE* as a fixed effects, as this specification requires prices to rise monotonically over time.

[20] The variables in the model are listed at *Hite Report*, *supra* n. 6 at p. 3. A similar specification is used in D. Hite, *A Hedonic Model of Environmental Justice*, Working Paper (February 14, 2006) (available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=884233).

transformation; distance from the city center (*DCC*) and the other regressors are not transformed. The specification seems purely ad hoc.

Equation (2) is non-linear in the parameters and must be estimated by Non-Linear Least Squares ("NLS"). This specification is highly irregular in econometric practice. Normally, hedonic models of housing prices are estimated by Ordinary Least Squares ("OLS"). A regression model quite similar to Equation (2) and very common in hedonic analysis is,

$$\ln p_{i,t} = \delta_1 \ln D_i + \beta_0 + \sum_{j=2}^{k} \beta_j X_{j,i} + \upsilon_{i,t}, \quad (3)$$

where the dependent variable is the natural log of price and where the *X*s might be transformed to logs as well.[21] While Equation (3) is typical of hedonic price functions, we are unable to find the estimation of Equation (2) anywhere in the literature. In fact, we were unable to locate a single instance where even the author of the *Hite Report* estimates a hedonic price function using Equation (2), but plenty of instances where Equation (3) is used.[22] As detailed later, a test of functional form can inform us as to whether the natural log transformation of the dependent variable is a better approach and infinitely more common.

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[21] Note that Equation (3) is not simply the log transformation of Equation (2) because of the additive error term in Equation (2).

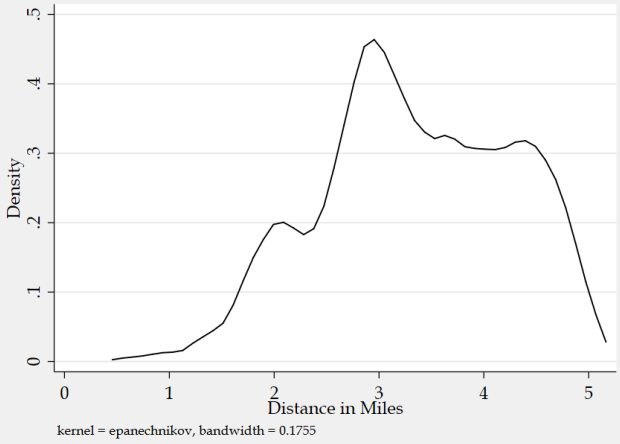
[22] *See, e.g.,* D. Hite, W.S. Chern, F. Hitzhusen and A. Randall, *Property Value Impacts of an Environmental Disamenity*, 22 JOURNAL OF REAL ESTATE FINANCE AND ECONOMICS 185-202 (2010) (draft available at: https://ssrn.com/abstract=290292); D. Hite, A. Jauregui, B. Sohngen, and G. Traxler, *Open Space at the Rural-Urban Fringe: A Joint Spatial Hedonic Model of Developed and Undeveloped Land Values*, Working Paper (November 1, 2006) (available at: https://ssrn.com/abstract=916964); D.M. Brasington and D. Hite, *A Mixed Index Approach to Identifying Hedonic Price Models*, 38 REGIONAL SCIENCE AND URBAN ECONOMICS 271-284 2008 (August 5, 2006) (available at: https://ssrn.com/abstract=928252); E. Affuso, C. de Parisot, C. Ho, and D. Hite, *The Impact of Hazardous Wastes on Property Values: The Effect of Lead Pollution*, 22 URBANI IZZIV 117-126 (2010) (available at: https://ssrn.com/abstract=1427544); D. Hite, *Factors Influencing Convergence of Survey and Market-Based Values of an Environmental Disamenity*, Mississippi State University Agricultural Economics Working Paper No. 2001-011 (November 29, 2001) (available at: https://ssrn.com/abstract=292447); C. Ho and D. Hite, *Economic Impact of Environmental Health Risks on House Values in Southeast Region: A County-Level Analysis*, Working Paper (2005) (available at: https://ssrn.com/abstract=839211); D. Hite, *A Hedonic Model of Environmental Justice*, Working Paper (February 14, 2006) (available at: https://ssrn.com/abstract=884233).

The coefficient of primary interest in the *Hite Report* is δ_1, which measures the percent change in the transaction price for a percentage change in distance from the quarry (D), but only *after* the quarry operations began (see Eq. 1). In this specification (and also for Eq. 3), this elasticity is constant across the full range of distance. With data on 2,812 sales, the *Hite Report* estimates the coefficient δ_1 to be 0.125, where the positive sign indicates the average sale price of homes is higher the further away the homes are from the quarry (statistically significant at the 1% level). The *Hite Report* concludes, as do subsequent reports that adopt the result, that this positive coefficient implies quarries reduce the price of nearby homes. As detailed above, the positive sign on the coefficient δ_1 cannot reasonably be interpreted in this manner since the data is for sales occurring long after quarry operations began, among other concerns.

B. *National Lime & Stone Quarry in Delaware, Ohio*

Replication is the essence of science. Even if the estimated price-distance relationship from Equation (2) lacks a causal interpretation, it is worth evaluating whether the *Hite Report*'s findings can be confirmed. We do so by estimating Equation (2) using data on 2,114 transactions in the same area over the period 1998-2007. Figure 1 offers the kernel density of the distribution of transactions by distance from the quarry. The thinness of the market very near the quarry is plain to see, which is also apparent from a map of the area surrounding the quarry (see Appendix 1).

Figure 1. Transactions and Distance from Quarry



Regression results from Equation (2) are summarized in the first column of Table 1, along with descriptive statistics for the full sample and the sample divided

into homes closer to the quarry than two miles and those further than that distance. The model has a Pseudo-R^2 of 0.25, which is very close to that reported in the *Hite Report* (0.254).[23] Five of the seven estimated coefficients (including the constant term) are statistically different from zero at the 1% level or better.

Table 1. Regression Results and Descriptive Statistics
National Quarry near Delaware, Ohio

	Coef (t-stat)	Mean (St. Dev)	$N = 0$ Mean (St. Dev)	$N = 1$ Mean (St. Dev)
ln*D* (δ_1)	-0.1413***	1.166	1.227	0.518
	(-4.00)	(0.304)	(0.230)	(0.224)
DATE	0.0450***	2002.7	2002.5	2004.4
	(11.13)	(2.952)	(2.969)	(2.125)
DDC	0.0409***	2.876	2.859	3.050
	(5.92)	(2.139)	(2.207)	(1.207)
H2L	-0.102	0.1498	0.148	0.1668
	(-0.81)	(0.1110)	(0.111)	(0.102)
BATH	0.0419	1.806	1.788	1.995
	(1.09)	(0.584)	(0.597)	(0.384)
TOTR	0.1398***	5.099	5.065	5.099
	(7.59)	(1.016)	(1.031)	(1.016)
Constant	-85.71***	…	…	…
	(-10.57)			
Pseudo-R^2	0.250			
Obs.	2,114	2,114	1,930	184

Statistical Significance: *** 1%, ** 5%, * 10%

Despite using exactly the same regression model and data on sales around the same quarry, we find that the transaction prices of homes *decrease* (not increase) as the distance from the quarry increases. The negative coefficient (-0.141) is similar in size *but different in sign* from that found in the *Hite Report* (0.125) and is statistically significant at the 1% level. The estimated coefficient implies a 1% increase in distance reduces home average, quality-adjusted home prices by about 0.14%. Since the coefficient is less than unity, the price-distance relationship is subject to diminishing marginal returns.[24] Figure 2 illustrates the relationship

[23] The Pseudo-R^2 is the squared correlation coefficient between the predicted value of the regression and the dependent variable.

[24] For any fixed change in mileage, the percentage change falls as distance increases.

between sale prices and distance from the quarry, revealing sizable reductions in average prices as distance from the quarry increases.

Figure 2. Price-Distance Relationship

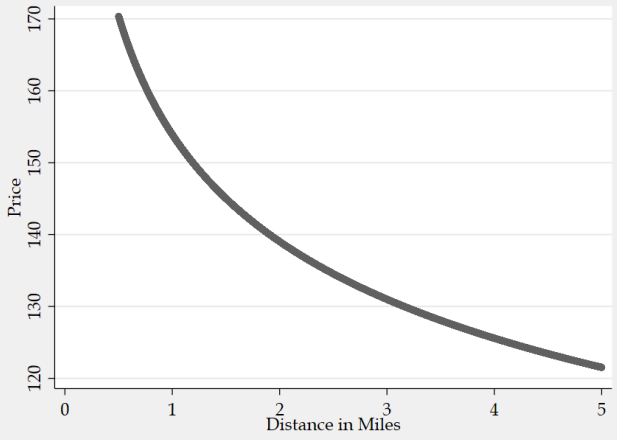


Table 2 summarizes the average predicted prices and price effects at varying distances from the quarry. Interpretation of the table is straightforward. A home sold 3 miles from the quarry will have a price 22% lower that of a home sold within 0.5 miles of the quarry, or 16% lower than the average home sold within 1.5 miles of the quarry. At two miles, the differences are 18% and 11%; at five miles, the differences are 28% and 22%. These are sizable effects.

Table 2. Home Values by Distance from Quarry

	Distance in Miles from Quarry							
	0.5	1.0	1.5	2.0	2.5	3	4.0	5.0
Avg. Price ('000)	169.8	153.9	145.4	139.6	135.2	131.8	126.5	122.6
Reduced Value (from 0.5 miles)	…	-9%	-14%	-18%	-20%	-22%	-25%	-28%
Reduced Value (from 1.5 miles)	…	…	…	-11%	-14%	-16%	-19%	-22%

These estimates and their predicted effect on prices are based on the estimation method (Eq. 2) used in the *Hite Report*. There are other equation specifications and estimation methods that are more consistent with standard practice in the analysis of housing prices (hedonics). In order to assess the robustness of the result, we offer alternative analyses below.

1. *Alternative Estimation Approaches*

As discussed above, Equation (2) is a non-standard method to estimate the relationship of interest. Normally, a researcher would avoid the non-linear Equation (2) and use the natural log of price to estimate Equation (3) by OLS. Statistical testing (such as the Box-Cox test of functional form) may be used to evaluate whether the linear or log-form of the dependent variable is preferred.[25] Other advantages of Equation (3) over Equation (2) is that the linear equation is amenable to estimation by Median Regression ("MReg") and Robust Regression ("RReg"), both of which are less sensitive to outliers in the data than is NLS or OLS.[26] Outliers are common in home sales data, so it is sensible to evaluate the effect on the estimates by these alternative estimation procedures, especially when the results are used in a policy relevant setting that may have significant financial implications.[27] We summarize the results from both methods.

Modern research on housing prices increasingly accounts for the spatial nature of real estate markets using new spatial methods.[28] We estimate the price-distance

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[25] W.E. Griffiths, R.C. Hill and G.G. Judge, LEARNING AND PRACTICING ECONOMETRICS (1993) at pp. 345-7.

[26] *See, e.g.*, R. Koenker, QUANTILE REGRESSION (2005); B.S. Cade and B.R. Noon, *A Gentle Introduction to Quantile Regression*, 1 FRONTIERS IN ECOLOGY AND THE ENVIRONMENT 412-420 (2004) (available at: http://www.econ.uiuc.edu/~roger/research/rq/QReco.pdf); O.O. John, *Robustness of Quantile Regression to Outliers*, 3 AMERICAN JOURNAL OF APPLIED MATHEMATICS AND STATISTICS 86-88 (2015); P.J. Rousseeux and A.M. Leroy, ROBUST REGRESSION AND OUTLIER DETECTION (2005); R. Andersen, MODERN METHODS FOR ROBUST REGRESSION (2008); T.P. Ryan, MODERN REGRESSION METHODS (2008).

[27] C. Janssen, B. Söderberg and J. Zhou, *Robust Estimation of Hedonic Models of Price and Income for Investment Property*, 19 JOURNAL OF PROPERTY INVESTMENT & FINANCE 342-360 (2001); S.C. Bourassa, E. Cantoni and M. Hoesli, *Robust Hedonic Price Indexes*, 9 INTERNATIONAL JOURNAL OF HOUSING MARKETS AND ANALYSIS 47-65 (2016).

[28] Including papers by the *Hite Report*'s author. *See, e.g.,* D.M. Brasington and D. Hite, *Demand for Environmental Quality: A Spatial Hedonic Analysis*, 35 REGIONAL SCIENCE AND URBAN ECONOMICS 57-82 (2005) (draft available at: https://ssrn.com/abstract=491244); *see also* J.M. Mueller and J.B. Loomis, *Spatial Dependence in Hedonic Property Models: Do Different Corrections for Spatial Dependence Result in Economically Significant Differences in Estimated Prices?*, 33 JOURNAL OF AGRICULTURAL AND RESOURCE ECONOMICS 212-231 (2008) (available at: http://ageconsearch.umn.edu/bitstream/42459/2/MuellerLoomis.pdf); L. Osland, *An Application of Spatial Econometrics in Relation to Hedonic House Price Modeling*, 32 JOURNAL OF REAL ESTATE

(Footnote Continued. . . .)

relationship using a Spatial Regression Model ("SReg"). To do so, a spatial weighting matrix (*W*) is computed and spatially-weighted lags of the dependent and independent variables are included in the regression as well as an adjustment for autocorrelated errors.[29]

Table 3. Alternative Estimation Methods
National Quarry near Delaware, Ohio

	OLS	*MReg*	*RReg*	*SReg*	*OLS-CEM*
	Coef (t-stat)	Coef (t-stat)	Coef (t-stat)	Coef (t-stat)	Coef (t-stat)
ln*D*	-0.2726*** (-7.31)	-0.2021*** (-14.21)	-0.1220*** (-5.59)	-0.1558 *** (-2.65)	-0.147*** (-3.00)
DATE	0.0433*** (12.45)	0.0342*** (15.76)	0.0367*** (16.58)	0.0440*** (12.86)	0.0453*** (6.30)
DDC	0.0273*** (3.90)	0.0460*** (8.64)	0.0551*** (15.00)	0.0679*** (5.09)	0.0483*** (3.31)
H2L	0.0794 (0.68)	-0.1131 (-1.47)	-0.2591*** (-3.74)	-0.1779 (-1.48)	0.1812 (0.94)
BATH	0.0485 (1.46)	0.0997*** (5.41)	0.1499*** (7.94)	0.0166 (0.56)	-0.0092 (-0.10)
TOTR	0.1540*** (8.97)	0.1523*** (14.00)	0.1508*** (14.12)	0.1497*** (9.11)	0.2047*** (6.44)
Constant	-82.47*** (-11.82)	-64.31*** (-14.80)	-69.52*** (-15.67)	-77.07*** (-11.25)	-86.77*** (-6.02)
Spatial Terms (χ^2)				242.3***	
Pseudo-R^2	0.246	0.216	0.243	0.265	0.214
Obs.	2,114	2,114	2,114	2,114	1,461

Statistical Significance: *** 1%, ** 5%, * 10%

RESEARCH 289-320 (2010) (available at: http://pages.jh.edu/jrer/papers/pdf/past/vol32n03/03.289_320.pdf).

[29] D.M. Drukker, H. Peng, I.R. Prucha, and R. Raciborski, *Creating and Managing Spatial-Weighting matrices with the* spmat *Command*, 13 STATA JOURNAL 242-286 (2013); D.M. Brasington and D. Hite, *Demand for Environmental Quality: A Spatial Hedonic Analysis*, 35 REGIONAL SCIENCE AND URBAN ECONOMICS 57-82 (2005) (draft available at: https://ssrn.com/abstract=491244). We truncate the distance at 0.5 miles.

(Footnote Continued. . . .)

Results for the alternative estimation methods are summarized in Table 3.[30] Across all four alternatives, the price-distance relationship is negative and statistically different from zero at the 1% level or better. Plainly, the negative price-distance relationship is robust to estimation method. The price-distance elasticity is a good bit larger for OLS and MReg, but similar to that estimated by Equation (2) for both the RReg and SReg methods (in the full sample). Note that more of the regressors are statistically significance in MReg and RReg, suggesting these estimation alternatives are worth consideration.

2. *Coarsened Exact Matching*

Thus far, we have paid no attention to whether homes near the quarry are like those far from the quarry (i.e., covariate overlap). What evidence is available in the *Hite Report* suggests that in her sample the types of homes sold near the quarry may have been be very different than those sold at a distance from it. While distance from the quarry is a continuous variable, we can consider covariate overlap by comparing the characteristics of homes near to and those far from the quarry, using a two-mile cutoff. In Table 1, we do observe some meaningful differences between homes within two miles of the quarry and those further away especially in the year sold and the number of bathrooms and total rooms.[31] To ensure we are comparing like homes, we apply Coarsened Exact Matching ("CEM") to the data and match on these three variables.[32] All 184 transactions within two miles of the quarry are matched to 1,277 (of 1,930) homes further than

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[30] The Box-Cox test statistic for the Delaware County data is 64.1, which is statistically significant at better than the 1% level. The test statistic is distributed $\chi^2(1)$ with a critical value of 2.71 at the 10% level. The natural log transformation, consistent with Equation (3), is preferred to the specification estimated in the *Hite Report*. Or, we might say the problem is not so much in the estimation by NLS rather than OLS but that the natural log transformation of the dependent variable is the better specification.

[31] Standardized differences (the absolute value of the means difference divided by the square root of the summed variances) are used. *See* Imbens and Wooldridge, *supra* n. 8 at p. 24. The rule of thumb for a large difference is a standardized difference exceeding 0.25. For the DATE variable, the standardized difference is 0.51, and about 0.30 for bathrooms and total rooms.

[32] S.M. Iacus, G. King. G. Porro, *Causal Inference without Balance Checking: Coarsened Exact Matching*, Working Paper (June 26, 2008) (available at: https://ssrn.com/abstract=1152391), later published *Causal Inference without Balance Checking: Coarsened Exact Matching*, 20 POLITICAL ANALYSIS 1-24 (2012) (available at: https://gking.harvard.edu/files/political_analysis-2011-iacus-pan_mpr013.pdf).

(Footnote Continued. . . .)

two miles from the quarry. The weights created by the CEM procedure are then used to estimate Equation (3) by weighted OLS.

Results for the CEM-weighted regression are reported in the final column of Table 3. The estimated coefficients are comparable in most respects to the other models.[33] Most significantly, the price-distance relationship remains negative (-0.147) and statistically different from zero. While we do not present the results in the table, we note that when estimated using the non-linear Equation (2) with CEM-weighted data the price-distance relationship is negative (-0.053) but not statistically significant, a difference we will return to later.

C. *Rogers Group Quarry near Murfreesboro, Tennessee*

It is reasonable to expect that the relationship of home prices to distance from a quarry might vary by location. Earlier research suggests this is so in other contexts.[34] To further evaluate the results reported in the *Hite Report*, we collect data on home sales around the Rogers Group Quarry near Murfreesboro, Tennessee.[35] Transaction data is again collected for years 1998 through 2007 and the sample includes 2,311 transactions. Given differences in data availability, we replace the total number of rooms with square footage (*SQFT*). Distance from the city center (*DCC*) is measured from Murfreesboro. We apply the same methods as before, estimating Equation (2) by NLS and then Equation (3) by OLS, MReg, RReg, and SReg. Results are summarized in Table 4. We do not observe large differences between the characteristics of home sold near to and far from the quarry, so we do not apply CEM for this quarry.

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[33] CEM-weighting often alters the coefficients and their significant levels since the data is better matched.

[34] *See supra* n. 7 and citations therein.

[35] The quarry is located at coordinates: 35.884699, -86.530625.

Table 4. Regression Results and Descriptive Statistics
Rogers Quarry near Murfreesboro, Tennessee

	NLS Coef (t-stat)	*OLS* Coef (t-stat)	*MReg* Coef (t-stat)	*RReg* Coef (t-stat)	*SReg* Coef (t-stat)
ln*D*	-0.0655***	-0.0383***	-0.0320***	-0.0327***	-0.0222
	(-4.99)	(-2.63)	(-3.01)	(-3.78)	(-0.72)
DATE	0.0522***	0.0443***	0.0407***	0.0404***	0.0444
	(27.09)	(20.36)	(31.73)	(35.55)	(23.05)
DDC	-0.0035*	-0.0006	-0.0007	-0.0011	-0.0012
	(1.85)	(-0.26)	(-0.44)	(-0.84)	(-0.15)
H2L	-0.6590	0.6404	-2.170***	-2.676***	0.3311
	(-1.11)	(0.42)	(-4.47)	(-5.84)	(0.42)
BATH	0.1395***	0.1666***	0.1811***	0.1759***	0.1344***
	(17.65)	(13.44)	(24.06)	(28.87)	(12.17)
SQFT	0.00026***	0.00021***	0.00032***	0.00033***	0.00018***
	(17.40)	(5.82)	(25.01)	(29.27)	(9.10)
Constant	-100.3***	-84.59***	-77.57***	-76.87***	-77.84***
	(-17.40)	(-19.52)	(-30.57)	(-33.79)	(-20.17)
Spatial Terms (χ^2)					385.2***
Pseudo-R^2	0.692	0.590	0.529	0.678	0.605
Obs.	2,311	2,311	2,311	2,311	2,311

Statistical Significance: *** 1%, ** 5%, * 10%

The fit the regressions (R^2 is around 0.60) is much higher than for the Delaware data, but the negative coefficients on distance are seen again. For the NLS model, the price-distance relationship is -0.0655 and the coefficient is statistically different from zero at better than the 1% level. Across the alternative specifications and estimation methods, the price-distance relationship is consistently negative and statistically different from zero, save one exception. Only in spatial regression is the price-distance relationship not statistically significant, though the coefficient is negative and similarly sized to the other models.

Additional evidence also leads to questions about the negative views of quarries. If quarries were a disamenity, then we might expect people to avoid living around them. Figures 3A-3C in Appendix 3 demonstrate population movements for Rutherford County, Tennessee, with emphasis on the Rogers Group quarry. Population is measured using U.S. Census Bureau population data for years 1990, 2000, and 2010. These figures show population density increasing

dramatically over this time period in the same census block as the Rogers Group quarry. These population movements toward the quarry in conjunction with the econometric results further indicate the Murfreesboro quarry is not a great disamenity, if a disamenity at all.

D. *Randomized Inference and the Implausibility of the Model*

Our analyses of home prices near the quarries in Delaware, Ohio, and Murfreesboro, Tennessee, find a negative and statistically significant relationship between home prices and distance from a rock quarry in most specifications and estimation methods. Consequently, we find no evidence that supports the findings of the *Hite Report*, despite using the same model and, in one instance, the same quarry from that earlier study. We fear, however, that these estimated relationships are mainly the consequence of the *Hite Report*'s poor experimental design than they are a measure of any real effect of the quarry. Indeed, we question whether the quantification of the effect of a disamenity or amenity can be plausibly estimated by a price-distance relationship. In Delaware County, for instance, it is not hard to find a statistically-significant price-distance relationship (using Eq. 2) from just about anywhere: the Church of the Nazarene off Highway 101 (δ_1 = -0.058, t = -2.79); The Greater Gouda gourmet grocery on North Sandusky Road (δ_1 = 0.268, t = 6.92); and the Foot & Ankle Wellness Center off South Hook Road (δ_1 = -0.043, t = -2.99).

Given patterns in real estate development, it seems plausible that a positive or negative price-distance relationship would be observed from almost any location. A sensible way to evaluate the reliability of the distance-based hedonic regressions is to apply the method of randomized inference (a type of pseudo-treatment).[36] In this procedure, the location of a "disamenity" or "amenity" is randomly chosen in the geographic area under study. Given the random assignment of location, we might expect the price-distance relationship to be statistically significant in proportion to the alpha-level of the statistical test (say, a 10% significance level) due to random variation. That is, a valid statistical test conducted at the 10% level

[36] R.A. Fisher, THE DESIGN OF EXPERIMENTS (1935); P.R. Rosenbaum, OBSERVATIONAL STUDIES (2002); M.D. Cattaneo, B.R. Frandsen, and R. Titiunik, *Randomization Inference in the Regression Discontinuity Design: An Application to Party Advantages in the U.S. Senate*, 3 JOURNAL OF CAUSAL INFERENCE 1–24 (2015); T. Fujiwara and L. Wantchekon, *Can Informed Public Deliberation Overcome Clientelism? Experimental Evidence from Benin*, 5 AMERICAN ECONOMIC JOURNAL: APPLIED ECONOMICS 241–255 (2013).

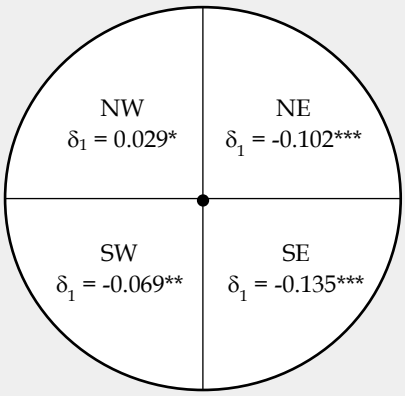
will reject the null hypothesis 10% of the time even if the null is true (e.g., Type I error).

We conduct such tests using the following simulation. First, a random location (latitude, longitude) within the Delaware area is chosen (see Appendix 4 for an illustration of the process). Second, the distances from this location to all home sales is computed. Third, we replace in the regression model the variable measuring distance from the quarry (D) with this alternate distance measure (D'). Fourth, we estimate a regression of price on the same variables as above, obtaining the coefficient, t-statistic and its probability on δ_1. Fifth, this process is repeated 1,000 times. Finally, from these 1,000 simulations, we can compute how often the null hypothesis of "no effect" is rejected.

At the threshold significance level of 10%, the null hypothesis is rejected in a whopping 67% of the simulations for the data from Delaware County, sometimes with positive and sometimes negative coefficients. Conducting the same simulation for Murfreesboro, the rejection rate is an even larger 93%. Given the random selection of locations in the simulation, this result is a powerful indictment against the sort of model employed in the *Hite Report*. A researcher may pick just about any location and find a statistically-significant price-distance relationship. We conclude based on this analysis that the addition of a distance variable to a hedonic model in an effort to identify the effect of a quarry on home prices is a poor experimental design with grossly inaccurate inference tests, especially when using asymptotic critical values for hypothesis testing and only data on post-operation transactions. In fact, we suspect many of the hedonic studies using distance from disamenities may be similarly unable to identify an effect of interest, but leave that question to future research.

Another problem with estimating the price-distance relationship is that unlike square footage, distance from a quarry is not unidimensional but occurs on a coordinate plane. A house may be located to the east or to the west, to the north or to the south, of a quarry, and moving closer to or away from the town center, a university, a landfill, or any other site that may influence prices. To see this, we divide the transaction data near Murfreesboro into four quadrants around the quarry (northeast, northwest, southeast, and southwest) and estimate a price-distance relationship unique to each quadrant (using Eq. 2). Results are summarized in Figure 3.

Figure 3. Price-Distance Relationship
Quadrants around Murfreesboro Quarry



From Figure 3, we see that the price-distance relationships are not equal across quadrants but rather differ substantially by the direction of the movement away from the quarry. From Table 4, we know that the average price-distance relationship from this quarry is negative (and statistically significant). Yet, from Figure 3, we see that the price-distance relationship is positive in the Northwest quadrant, but negative in all other quadrants. All the estimated price-distance relationships are statistically different from zero at the 10% level or better. It appears, therefore, that there is no "price-distance relationship" but many "price-distance relationships" from any given site. We believe these results are more evidence of the spurious nature of the price-distance relationship estimated using hedonic models of housing prices.

In light of our randomized inference procedure and additional evidence, we conclude, for now, that the type of model and experimental design used in the *Hite Report* is entirely unsuited to the task of identifying the price impact of quarries. Our results from replication efforts, which consistently find a negative price-distance relationship, are no less implicated by the defect than those of the *Hite Report*. Identifying the effects of quarries on housing prices requires a different experimental design, and careful attention to selection bias, covariate overlap, and the numerous ramifications of thin markets around the site. We attempt to offer some better evidence below.

E. *Spurious Regression and the Search for Results*

In light of the evidence that a statistically significant price-distance relationship is found for no less than seven-out-of-ten randomly chosen locations,

we conclude the *Hite Report*'s experimental design is incapable of quantifying the effect of quarries on house prices. The results from such models are spurious. Consequently, we expect that the price-distance relationship will be sometimes positive, sometimes negative, sometimes statistically significant and sometimes not for any given quarry. Statistical significance is the flip of a coin heavily weighted toward the rejection of the null hypothesis. Our analysis also shows that the choice of estimation method may alter the estimated coefficient and its significance, a common trait of spurious regression.

The fact different quarries and different estimation methods produce different results advises caution in conducting and assessing such studies, especially in a policy-relevant context when economic development is at stake. Inference errors may be inadvertent, or an advocate may exploit the spurious nature of the relationship by searching for a location, model specification, and time period to produce an outcome supporting a favored policy position. We can demonstrate the risks of such an ends-driven search by looking at more recent data for Delaware, Ohio, using data on prices for the five-year period 2012 through 2016 (1,429 transactions). The models and variables are measured in the same way as above.

Table 5 summarizes the results from a few estimation methods. For expositional purposes, we present only on the price-distance relationship. Using the unconventional Equation (2) from the *Hite Report*, we find that the price-distance relationship for this period is positive—a statistically significant result (by asymptotic convention). The result is opposite of that estimated for the data from the 1998-2007 period, even though the location is the same. Without any constraint on the choice of time period to analyze, an unscrupulous advocate is free to choose data from different periods in search of results to support his or her position.

Table 5. Results Delaware Quarry, Years '12-16

	NLS Coef (t-stat)	*OLS* Coef (t-stat)	*MReg* Coef (t-stat)	*RReg* Coef (t-stat)	*SReg* Coef (t-stat)
ln*D*	0.1285***	0.0192	-0.0065	0.0412	0.0780
	(3.45)	(0.52)	(-0.32)	(1.63)	(1.10)
Spatial Terms (χ^2)					41.28***
Pseudo-R^2	0.392	0.332	0.263	0.377	0.347
Obs.	1,429	1,429	1,429	1,429	1,429

Statistical Significance: *** 1%, ** 5%, * 10%

Model selection and variable choice may also be used in an ends-drive search for results. As shown in Table 5, estimating Equation (3), a standard functional form for hedonic regressions, the positive coefficient is now a sixth the size of that estimated by Equation (2) and is no longer statistically different from zero at standard levels.[37] Also, Median, Robust and Spatial Regression do not find statistically significant price-distance relationships. In fact, the only model that produces a statistically-significant positive effect is the non-standard regression equation used in the *Hite Report*. Moreover, if we replace the *TOTR* variable with the *SQFT* variable in the NLS model, the price-distance relationship shrinks to 0.02 (one-sixth the size) and the coefficient is no longer statistically significant. Again, a researcher may pick-and-choose model specification, along with time period analyzed and regressors, to obtain a desired result. Skepticism is warranted for any analysis of the price effects of quarries (and amenities or disamenities generally) absent robustness analysis across time and model specifications.

Table 6. Results Delaware Quarry, Years '98-07 & '12-16

	NLS Coef (t-stat)	*OLS* Coef (t-stat)	*MReg* Coef (t-stat)	*RReg* Coef (t-stat)	*SReg* Coef (t-stat)
ln*D*	0.10028	-0.1361***	-0.0963***	-0.0501***	-0.1059**
	(0.11)	(-5.04)	(-6.33)	(-2.89)	(-2.10)
Spatial Terms (χ^2)					41.28***
Pseudo-R^2	0.302	0.262	0.219	0.288	0.151
Obs.	3,543	3,543	3,543	3,543	3,543
Statistical Significance: *** 1%, ** 5%, * 10%					

As another check on robustness (or a lack thereof), we combine the data from 1998-2007 and 2012-2016, excluding those years when the housing market and economy generally were in turmoil (2008-2011). Results on the price-distance relationship are summarized in Table 6. Now, Equation (2) estimated by NLS reports a statistically insignificant (but positive) coefficient for the price-distance relationship. The other estimation methods, however, all confirm the negative and statistically significant relationship consistent with the results in Tables 1 and 3. It appears, therefore, whether or not quarries affect prices hinges on model selection and dates selected, which simply demonstrates the spurious nature of these sorts of experiments. Plainly, care must be given to model selection, and robustness analysis should be thorough and explicit. And, in light of the randomized

[37] The Box-Cox test indicates a preference for the transformation ($\chi^2 = 40.7$).

inference and quadrant analysis above, the utility of the price-distance relationship for quantifying the effects of quarries and disamenities should be regarded as defective, at least until further research demonstrates otherwise.

The analyses presented here, we believe, offers compelling evidence that the *Hite Report*'s experimental design is a flimsy method, easily manipulated to produce nearly any desired result through the selection of location, model specification, estimation technique, and the time period analyzed. The *Hite Report*'s findings cannot be reliably replicated and conflicting results are readily obtained. The spurious nature of the price-distance relationship from such experiments is clearly demonstrated, and the defective approach allows for nearly any result imaginable. Using data long after a quarry opens poses no limits on the selection of time period, enhancing the risk of the exploitation of spurious regression for economic and political advantage.

IV. A Difference-in-Difference Approach

As detailed above, to quantify the effect of a quarry on home prices the researcher ideally needs pricing data both before and after quarry operations begin.[38] With this data, statistical analysis can determine how the relationship between price and distance from the quarry *changes* after the quarry opens, thus quantifying, under some well-known assumptions, a plausible causal effect.

There are some potential shortcomings with a simple before-and-after analysis, however. New quarries take years to get approval and normally we expect equity prices to reflect new information quickly, so price effects may precede that event. In this section, we offer two before-and-after analyses of the effect of a quarry on home prices. First, we evaluate pricing activity around the Vulcan quarry in Gurley, Alabama, which began operations in 2013. Gurley is a rural area not far from the city of Huntsville, Alabama. Consistent with the analysis above, we use the general format of the *Hite Report* (and several

[38] Another possible identification strategy involves exploiting policy experiments with respect to residential distance from a quarry. For example, if some states required houses to be a certain distance away from a quarry while other states did not, then a credible counter-factual could be constructed allowing the researcher to estimate the effect of quarry distance on home prices. A regression discontinuity design could be used to identify the price-distance relationship if regulations required potential home buyers to be informed of the quarry for homes within a certain distance. Homes just inside and just outside this cut-point would could be used as treatment and control units to identify the causal price-distance relationship.

(Footnote Continued. . . .)

alternatives) to test for a *change* in the price-distance relationship after the quarry opens.

Second, we evaluate the price effects of the contested Austin Quarry in Madera, California, which was approved in 2016.[39] Located in the southwest corner of the intersection of Highway 41 and Highway 145, the site is proximate to two subdivisions, one located on Highway 145 and the other on Highway 41. Thus, not only are the subdivisions proximate to the quarry, but both are expected to deal regularly with the quarry's traffic flow. Though first proposed in 2010, media coverage and public protest did not begin until 2013, at which time the new quarry might be expected to affect home prices through an announcement effect.[40] A control group is chosen using CEM from homes sales in subdivisions not too far from the quarry site but beyond the range of influence. We find no statistically significant effect of the quarry in either model, though in both cases the estimated coefficients indicate, if anything, the quarry raises property values.

A. *The Empirical Model*

For these analyses, we employ the standard regression model for the DiD estimator. Using a log-linear form common to hedonic regressions, the regression equation is,

$$\ln p_{it} = \Delta T \cdot N_i + \delta_0 N_i + \beta_0 + \sum_{j=2}^{k} \beta_j X_{j,i} + \upsilon_{it} \ , \tag{4}$$

where T is dummy variable equal to 1.0 after the treatment and N_i is a dummy variable for homes near the quarry site (or a continuous measure of distance from the quarry). The estimated coefficient δ_0 measures the difference in average sale prices for homes near the quarry (or the effect of distance from it) *prior to the treatment*. After the treatment, the difference in price between homes near and far from the quarry is $\Delta + \delta_0$. The difference between the two effects is Δ, which is the DiD estimator, as defined in Equation (1), or $\Delta = \delta_1 - \delta_0$. The t-test on the coefficient

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[39] J. Rieping, *Controversial Quarry Up for Vote*, MADERA TRIBUTE (July 16, 2016) (available at: http://www.maderatribune.com/single-post/2016/07/16/Controversial-quarry-up-for-vote); M.E. Smith, *Austin Quarry Approved in 3-2 Vote*, SIERRA STAR (July 20, 2016) (available at: http://www.sierrastar.com/latest-news/article90713132.html).

[40] Lexus-Nexus search conducted on February 20, 2018. B. Wilkinson, *Concerns Over Truck Traffic on Road*, SIERRA STAR (February 21, 2013).

Δ is, therefore, a direct test of the statistical significance of the effect of a quarry on home prices.

As an alternative, we estimate,

$$\ln p_{it} = \Delta T \cdot N_i + \beta_0 + \sum_{j=2}^{k} \beta_j X_{j,i} + \lambda_t + \nu_{it} \ , \tag{5}$$

where the continuous *DATE* variable is replaced with year fixed effects (λ_t), which is a somewhat standard treatment of time in the DiD regression. Due to collinearity with the fixed effects, the $\delta_0 N$ term is no longer included in the regression, but the interpretation of Δ is unchanged.

For consistency with the earlier analysis, we also estimate the model specification of the *Hite Report*, adding as a regressor the interaction of a treatment dummy variable for years 2013 and later (*T*). The regression model is,

$$p_{it} = \exp(\delta_0 \ln D_i + \Delta \ln T \cdot D_i + \beta_0 + \sum_{j=2}^{k} \beta_j X_{j,i}) + \varepsilon_{it} \, , \tag{6}$$

where the variables are defined the same way as the Murfreesboro analysis (i.e., total rooms is replaced with square footage). The coefficient δ_0 quantifies the price-distance relationship prior to the initiation of quarry operations in 2013. Starting in 2013, the price-distance relationship is measured by $\delta_0 + \Delta = \delta_1$, where Δ measures the *change* in the slope of the price-distance relationship. If the quarry reduces home values near the quarry, then Δ should be positive and statistically significant. Equation (6) is estimated by NLS.

B. *Vulcan Quarry in Gurley, Alabama*

As with the earlier analysis, data is obtained on home sales within a five-mile radius of the quarry location in Gurley, Alabama. The quarry began operations in 2013, and our data spans 2005 through portions of 2017. The sample includes 593 transactions, but we note only 83 are for sales prior to 2013.[41] Since there is no "city

[41] The low samples are likely the consequence of the rural nature of the market and data collection in such areas. We cannot exclude the possibility the sample is peculiar in some respect.

center" in the area, the *DCC* variable is measured as the distance from the WalMart Supercenter in the nearby town of Big Cove.

Table 7. Regression Results and Descriptive Statistics
Vulcan Quarry in Gurley, Alabama

	NLS-Eq. 6 Coef (t-stat)	*OLS-Eq. 4* Coef (t-stat)	*OLS-Eq. 5* Coef (t-stat)	Mean (St. Dev)
ln*D*	0.0876	0.2723***	0.3679**	3.445
	(0.97)	(3.64)	(2.20)	(0.987)
T·ln*D*	-0.1205**	-0.0543	-0.1587	2.936
	(-2.41)	(-1.07)	(-0.88)	(1.50)
DATE	0.0162*	0.0191*	…	2014.1
	(1.67)	(1.85)		(2.30)
DDC	-0.0456***	-0.0529***	-0.0512***	4.484
	(-5.85)	(-5.99)	(-5.80)	(2.27)
H2L	-1.2185	-0.2457	0.1868	0.063
	(-0.79)	(-0.11)	(0.08)	(0.029)
BATH	0.1752***	0.2672***	0.2655***	2.875
	(6.92)	(8.84)	(8.71)	(0.932)
SQFT	2.2E-04***	2.0E-04***	1.9E-04***	2,870.3
	(5.97)	(3.22)	(3.11)	(1,139.8)
Constant	-27.99	-27.57	10.61***	…
	(-1.43)	(-1.32)	(36.57)	
λ_t	No	No	Yes	…
Pseudo-R^2	0.641	0.602	0.608	…
Obs.	593	593	593	593

Statistical Significance: *** 1%, ** 5%, * 10%

Results are summarized in Table 7.[42] Many of the coefficients are statistically significant and similar to those estimated using the Murfreesboro data. First, for Equation (6) estimated by NLS, we find that housing prices rise as distance from the quarry increases (the coefficient on ln*D* is positive), but this positive effect is observed *prior to the beginning of quarry operations*. After the quarry opens, the positive (though statistically insignificant) price-distance relationship is attenuated; the estimated Δ coefficient is -0.103 and the null hypothesis of "no effect" for the DiD estimator is rejected at the 5% level. Prior to 2013, the price-

[42] Since we do not observe large differences in the characteristics of homes near to and far from the quarry, we do not apply CEM.

distance elasticity is 0.088 (δ_0), but after 2013 it is -0.033 (δ_1), a small effect that is statistically indistinguishable from zero (F-stat = 0.16, prob = 0.69).

Turning to Equation (4), the price-distance relationship is again positive (and much larger than with NLS) but is now statistically significant prior to the beginning of quarry operations. The Δ coefficient is -0.054, which while negative is no longer statistically different from zero at standard levels. The positive price-distance relationship is attenuated after the quarry began operating, but not to a statistically significant degree. The results are similar for Equation (5). Though not summarized in the table, we note that for MReg and RReg neither of the quarry-distance coefficients is statistically different from zero. The SReg results, also not presented in the table, are not wholly unlike the OLS estimates of Equation (4); the coefficient δ_0 is positive (0.331, t = 4.45) and statistically significant, but the Δ coefficient is negative (-0.055, t = 0.98) and not statistically different from zero.

The lack of robustness to specification leads us to conclude that the most likely effect of the quarry is no effect at all. Also, we acknowledge that the defects in the *Hite Report*'s empirical strategy is as relevant here as before: our randomized inference simulation computes a rejection rate on δ_0 of 65% and for Δ of 67% (at a nominal 10% significance level). While we recognize the limitations of the data and the methods, on whole the results are entirely at odds with the claim that quarries reduce housing prices. If anything, the effect is the opposite.

C. *Austin Quarry in Madera County, California*

Quarry sites often take years for approval. Our model of the Gurley quarry presumed that prices do not reflect the quarry operations until after the quarry is operational. A reasonable argument may be made, however, that home prices might adjust before the quarry opens when the local population becomes aware of the future quarry site. We consider that possibility now.

The Austin Quarry in Madera, California, was approved in September 2016 despite a substantial NIMBY effort.[43] A search of news outlets reveals that public attention to proposed quarry initiated in early 2013 and was very active is

[43] M. Smith, *Supervisors Approve Austin Quarry 3-2*, SIERRA STAR (September 12, 2016) (available at: http://www.sierrastar.com/news/local/article101492412.html).

(Footnote Continued. . . .)

subsequent years.[44] Thus, we define the treatment dummy *T* as having values of one in years after 2013 (and also consider other years). Data is collected for the ten years preceding the treatment date, so the data spans 2007 through 2016.

The Austin Quarry site is well outside of town, but there are two subdivisions proximate (less than three miles) to the site: Bonadelle Racheros-Madera Ranchos and Bonadelle Rancheros Nine. Both subdivisions abut the major highways (Highways 41 and 145) servicing the quarry site. If any homes are to be affected by the quarry, then these are the most likely candidates, and they represent our treatment group. The dummy variable *N* takes a value of 1 for these subdivisions (zero otherwise). Visual inspection of the area points to a number of subdivisions in the vicinity that are neither on the major highways serving the site nor within ten miles of the site: Madera Estates, Madera Country Club, Lake Madera Country Club, Chuk Chanse, Valley Lake Ranchos, Madera Acres, Madera Knolls, and Madera Highlands. A control group will be selected from home sales in these subdivisions.

Estimation of the DiD estimator employs Equation (5). Regressors include the age of the home at the sale data (*AGE*), square footage (*SQFT*), the number of bedrooms (*BED*) and bathrooms (*BATH*), a dummy variable indicating whether the home a two story home (*STRY*), a dummy variable indicating the presence of a fireplace (*FIRE*), a dummy variable indicating whether the home has a swimming pool (*POOL*). Year fixed effects are included.

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[44] B. Wilkinson, *Concerns Over Truck Traffic on Road*, SIERRA STAR (February 32, 2013); G. Smith, *Economic Costs and Benefits of the Proposed Austin Quarry in Madera County* (October 23, 2014) (available at: http://www.noaustinquarry.org/wp-content/uploads/2016/08/Austin-Quarry-Economics-Report.pdf); M.E. Smith, *Progress Continues on Austin Quarry*, SIERRA STAR (February 10, 2016) (available at: http://www.sierrastar.com/news/article87816032.html); B. Wilkinson, *Group Opposes Proposed Rock Quarry*, SIERRA STAR (November 12, 2014) (available at: http://www.sierrastar.com/news/article87802492.html); D. Joseph, *Quarry Issues Need to be Addressed*, SIERRA STAR (December 3, 2014) (available at: http://www.sierrastar.com/opinion/article87803072.html).

Table 8. Descriptive Statistics
Austin Quarry in Madera County, California

Variable	ALL Mean (St.Dev)	*N*=0 Mean (St.Dev)	*N*=1 Mean (St.Dev)	Stan. Diff.
AGE	16.13 (12.16)	16.50 (12.22)	15.21 (11.95)	0.075
SQFT	1811.6 (522.7)	1706.7 (490.6)	2072.9 (509.5)	0.518*
BED	3.32 (0.59)	3.27 (0.54)	3.43 (0.70)	0.179
BATH	1.99 (0.68)	1.83 (0.66)	2.38 (0.56)	0.639*
STRY	0.024 (0.15)	0.016 (0.12)	0.043 (0.20)	0.115
FIRE	0.632 (0.48)	0.730 (0.44)	0.390 (0.49)	0.515*
POOL	0.068 (0.25)	0.033 (0.17)	0.159 (0.36)	0.311*
Price	215.4	195.0	266.3	
Price/*SQFT*	120.8	116.4	131.9	
Obs.	887	633	254	

Descriptive statistics for the treatment and control pool are provided in Table 8. The homes are similar in some respects, but large standardized differences (> 0.25) are found for square footage, the number of bathrooms, and the presence of a fireplace or pool.[45] CEM based on *SQFT*, *BATH*, *FIRE*, and *POOL* reduces the standardized differences to acceptable levels for all the regressors. We are able to match 229 of 254 homes in the treated group to 450 of 633 homes in the control pool, for an estimation sample of 679 home sales.

[45] Imbens and Wooldridge, *supra* n. 8.

Table 9. Regression Results and Descriptive Statistics
Austin Quarry in Madera County, California

	OLS Coef (t-stat)	*CEM-OLS* Coef (t-stat)	*CEM-MReg* Coef (t-stat)	*SReg* Coef (t-stat)
N (δ_0)	0.1166**	0.1277**	0.1194***	0.1913**
	(2.47)	(2.08)	(4.99)	(2.11)
$T{\cdot}N$ (Δ)	0.1663***	0.1005	0.1161***	0.0878
	(2.95)	(1.21)	(3.14)	(1.32)
AGE	0.0017	0.0087***	-0.0003	-0.0055*
	(1.20)	(3.47)	(-0.35)	(-0.35)
SQFT	1.7E-04***	1.3E-04**	3.0E-04***	2.0 E-04***
	(3.40)	(2.05)	(12.68)	(4.39)
BED	0.0349	0.01205***	0.0450**	-0.0542
	(0.90)	(2.63)	(2.49)	(1.54)
BATH	0.0288	-0.0439	-0.0777***	-0.0218
	(1.08)	(-0.60)	(-2.60)	(-0.61)
STRY	-0.0878	-0.0408	0.0043	-0.1378
	(-0.70)	(-0.33)	(0.05)	(-1.29)
FIRE	0.0770**	0.0650*	0.0422***	0.0305
	(2.43)	(1.73)	(2.94)	(0.88)
POOL	0.1833***	0.1577***	0.0853***	0.2346***
	(3.71)	(4.03)	(3.68)	(3.63)
Constant	11.21***	10.92***	11.35***	11.62***
	(98.08)	(70.30)	(20.67)	(83.17)
λ_t	Yes	Yes	Yes	Yes
Spatial Terms (χ^2)				27.17***
Pseudo-R^2	0.482	0.491	0.361	0.186
Obs.	887	679	679	887

Statistical Significance: *** 1%, ** 5%, * 10%

Regression results are summarized in Table 9. For comparison purposes and to illustrate the important effects of covariate balance, estimates for both the full and CEM-weighted samples are provided. The models fit the data well for both samples. For the full sample, which we caution does not rely on balanced data, the estimated δ_0 coefficient (0.117) indicates that prices in the treated group were about 12% higher [$\exp(\delta_0) - 1$] in the pre-treatment period. After the treatment, the prices were even higher ($\Delta = 0.166$), a statistically significant result of about an 18% increase. The remaining coefficients are sensibly sized and many are statistically different from zero. A swimming pool, for instance, raises price by about $38,000.

Turning to the CEM-weighted model, the price difference before the treatment is a bit larger ($\delta_0 = 0.128$), and the difference is statistically significant at standard

levels. As in the full sample, the DiD estimator Δ is positive (0.100), but now it is not statistically significant. For the balanced sample, we cannot reject the null hypothesis that the quarry's announcement effect is zero, though the coefficient is relatively large and the t-statistic is much larger than 1.00. In contrast, for the CEM-weighted MReg, prices are higher in the treated area during both the pre-treatment and treatment period, and both coefficients are statistically different from zero at better than the 1% level.

In the final column of Table 9, we summarize the results from SReg using the full sample. The spatial terms are statistically significant at the 1% level. The results are comparable to the others. Prices are higher in the treated area before the treatment, but we do not see a statistically significant change is seen after the treatment. The DiD estimator Δ is positive and relatively large (0.09), but statistically significant only at the 20% level.

Table 10. Regression Results, Annual Treatment Effect
Austin Quarry in Madera County, California

	2013 Coef (t-stat)	2014 Coef (t-stat)	2015 Coef (t-stat)	2016 Coef (t-stat)
$T{\cdot}N$ (Δ)	0.2721*** (2.65)	0.0018 (0.01)	0.0322 (0.42)	0.3949 (1.41)
Statistical Significance: *** 1%, ** 5%, * 10%				

Finally, we can estimate the Δ coefficient for each year beginning with our chosen treatment date (2013), thereby assessing whether that choice is influencing the estimate.[46] The results by year are summarized in Table 10. Large positive coefficients are observed in years 2013 and 2016 (the latter close to being statistically significant), and smaller positive coefficients for the other years. These results are consistent with those reported in Table 9.

Notably, we do not estimate a price-distance relationship in these equations. Distance from the quarry site is not a regressor. Unlike the distance-based model, the rejection rates for randomized inference (assigning the homes in the treatment group randomly from those in the sample) are very close to the nominal level of the test (11% rejection rate versus 10% nominal test level). The statistical reliability

[46] The coefficients are year specific and do not quantify the average after the treatment year, as do the results from Table 9.

of this approach is much superior to the price-distance approach used in the *Hite Report*.

Taken together, we conclude from these results indicate that the effect of the quarry may very well be zero, at least in the form of an announcement effect. If there is any effect, it is positive. Whether or not the quarry will affect prices, either positively or negatively, after operations begin (assuming they do) is unknowable at this time. In light of the evidence presented here and in prior research, the expectation must be that there will be little to no effect on home prices and, if anything, that effect may be positive.

V. Conclusions

We estimate the effect of rock quarries on home prices with data from four quarry locations across the United States, a wide range of econometric specifications and robustness checks, and a variety of temporal circumstances from the lead-up to quarry installation to subsequent operational periods. We find no compelling statistical evidence that either the anticipation of, or the ongoing operation of, rock quarries negatively impact home prices. While our study extends the literature on estimating the effects of "disamenities," primarily as a critique of existing methods, the empirical problem is difficult and likely requires advanced research methods beyond what we provide here. The primary obstacle to estimating these effects is the lack of data and that lack of data is actually driven by the quarry site selection process, which limits our ability to infer a causal relationship. Thin markets and a subsequent lack of sales data are a serious problem since quarries are today (and typically in the past) located, by design, away from residential density.

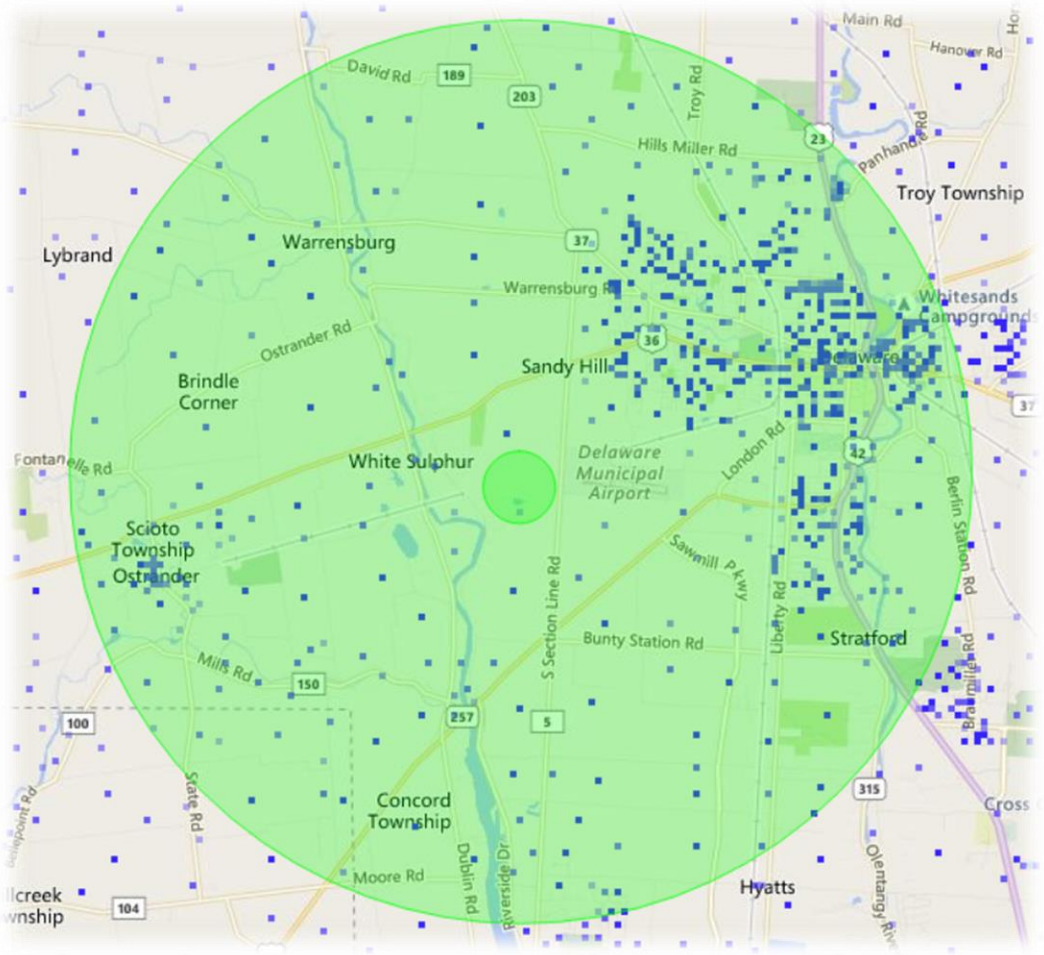
Our study highlights a number of shortcomings in the empirical methodologies generally used to estimate the effect of disamenities on real estate prices. First and foremost, the vast majority of studies do not (or even attempt to) identify the causal effect of disamenities. That is, existing studies are naïve as to the empirical conditions necessary to identify a causal relationship and do not establish credible strategies to estimate the counter-factual outcome—i.e., how the real estate around quarries would have looked, on average, without a landfill or other disamenity. To evaluate the credibility of existing studies and their methodologies, we first employ permutation tests to examine whether or not the existing methodologies yield higher than expected rejection rates of the null hypothesis. We accomplish this by randomly assigning a location in our sample space with a "disamenity" (i.e., a placebo quarry) and then estimate the effect on surrounding home prices. The null hypothesis of "no effect" of the placebo

quarries is rejected in no less than 7 out of 10 simulations, and at a rate as high as 9 out of 10 simulations.

In an attempt to produce a meaningful counter-factual we employ a difference-in-differences estimation strategy which exploits the timing and placement of a quarry. We use this strategy in two different contexts: (1) before and after operations of a quarry in Gurley, Alabama; and (2) before and after local debate (and subsequent approval) of a quarry in Madera County, California. The first exercise estimates the effect of quarry operations on home prices and the second exercise estimates the anticipatory effect of a quarry on home prices. Neither exercise yields evidence of a negative impact on home prices. Given a number of data concerns and model limitations (since our interest is primarily in replication), further research is advised.

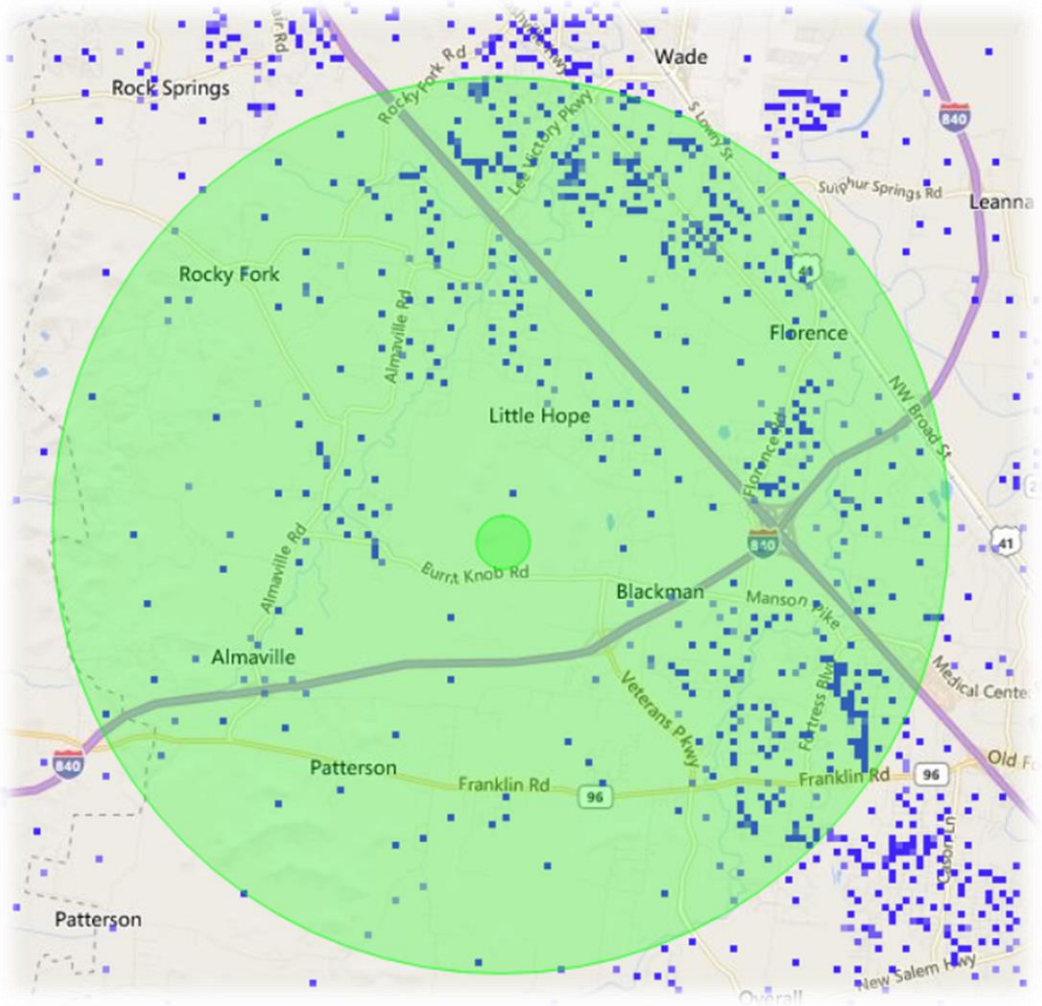
APPENDIX 1. MAP OF NATIONAL LIME & STONE QUARRY NEAR DELAWARE, OHIO

Notes: The small, inner green circle marks the National Lime & Stone Quarry near Delaware, Ohio. The larger green circle is a five-mile radius around the quarry location. The blue dots mark areas of population density using 2010 census data. Map generated using censusviewer.com.



APPENDIX 2. MAP OF ROGERS GROUP QUARRY NEAR MURFREESBORO, TENNESSEE

Notes: The small, inner green circle marks the Rogers Group Quarry near Murfreesboro, Tennessee. The larger green circle is a five-mile radius around the quarry location. The blue dots mark areas of population density using 2010 census data. Map generated using censusviewer.com.



APPENDIX 3. CENSUS BLOCK POPULATION GROWTH NEAR ROGERS GROUP QUARRY NEAR MURFREESBORO, TENNESSEE

Notes: Figures 3A-3C demonstrate population movements for Rutherford County, TN, with emphasis on the Rogers Group quarry. Population is measured using U.S. Census Bureau population data for years 2000, 2010, and 2016. Darker blues imply greater population.

Fig. 3A: Rutherford County, TN, 1990 Population Density

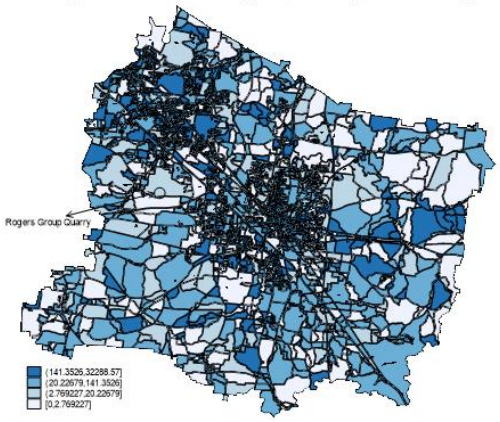


Fig. 3B: Rutherford County, TN 2000 Population Density

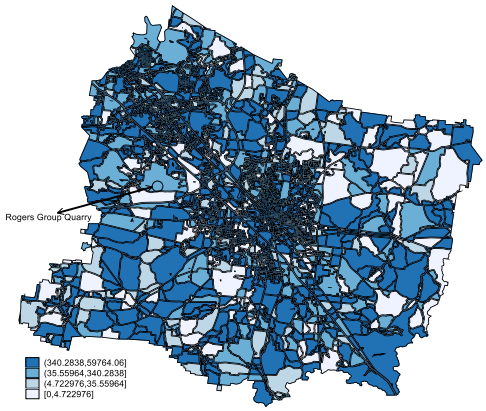
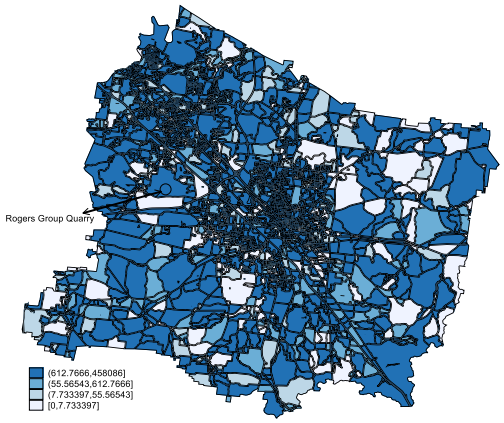
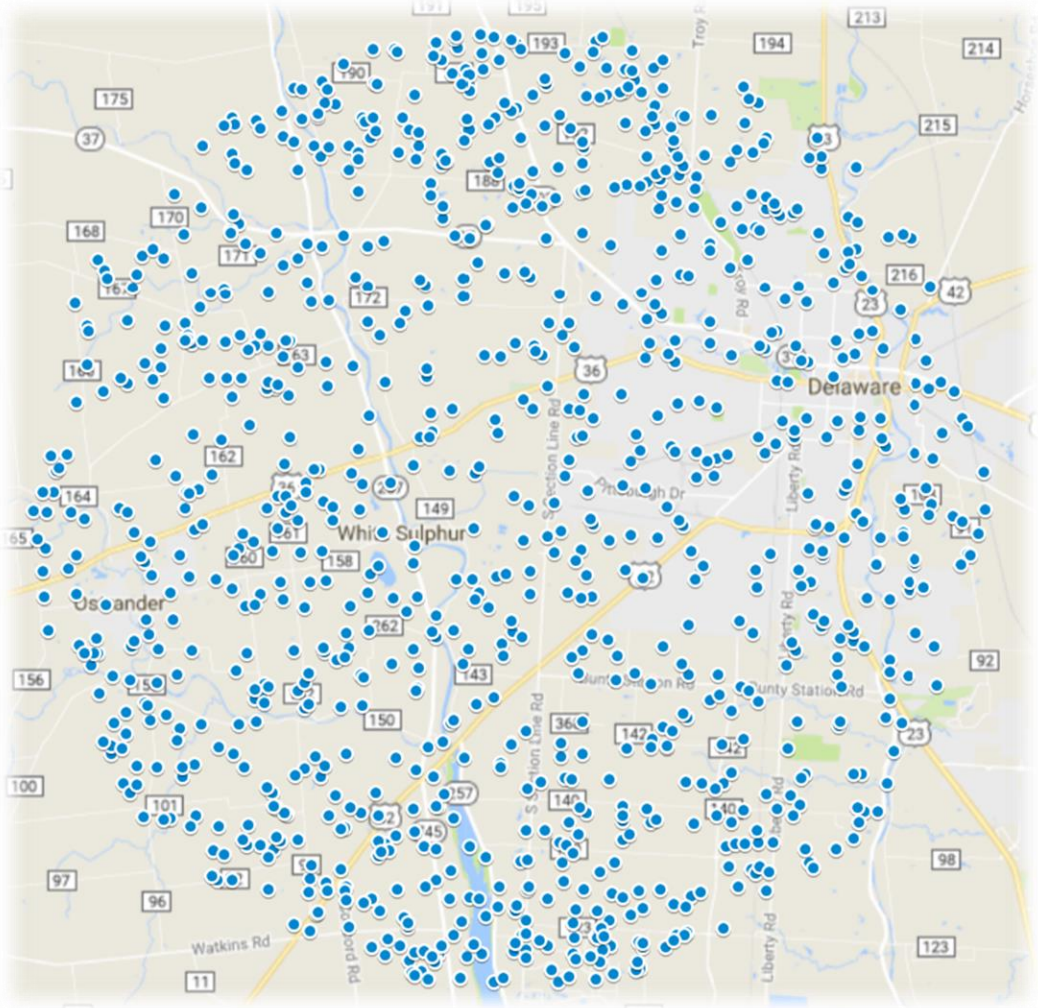


Fig. 3C: Rutherford County, TN 2010 Population Density



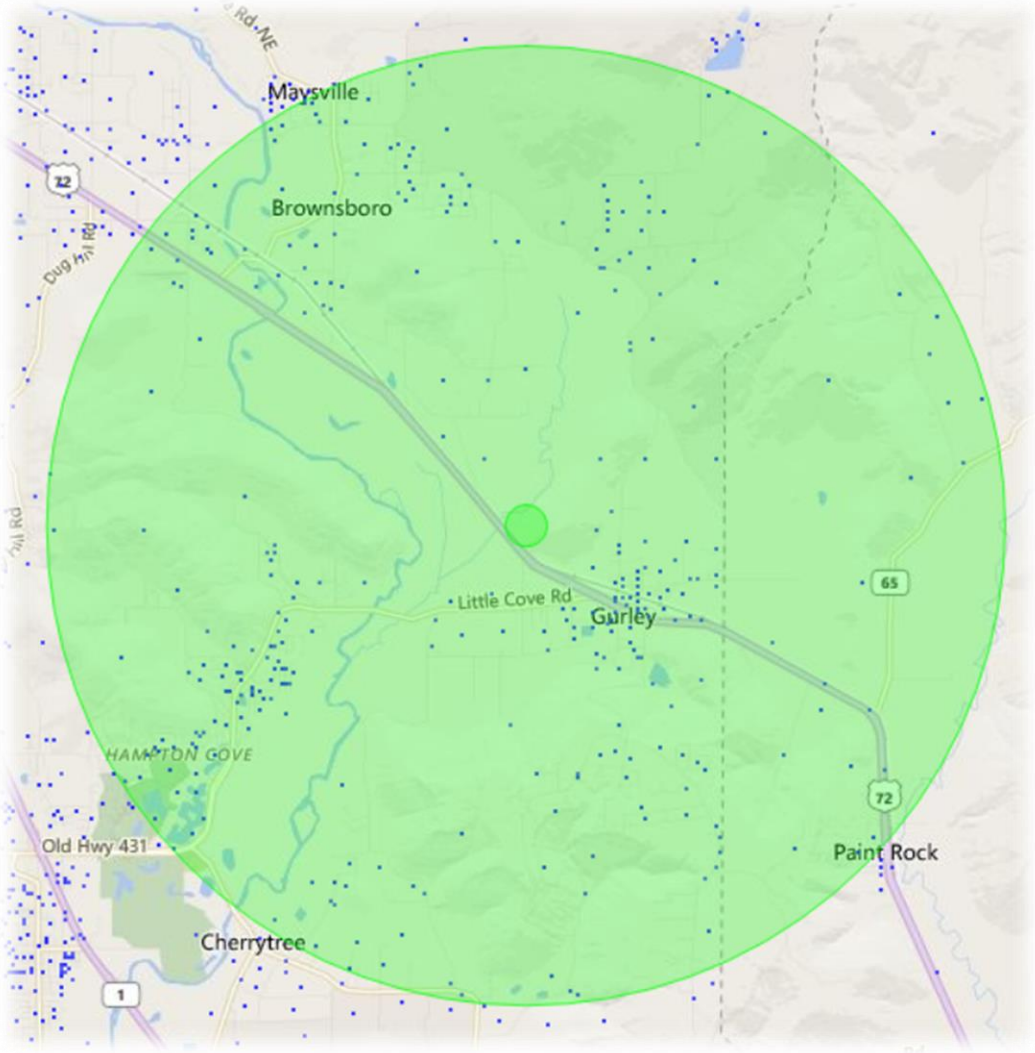
APPENDIX 4. ILLUSTRATIVE MAP OF RANDOM LOCATIONS USED FOR RANDOMIZED INFERENCE ANALYSIS FOR DELAWARE COUNTY

Notes: The blue dots represent the random locations chosen by the randomized inference simulation for Delaware County, Ohio. Map generated using Google maps.



APPENDIX 5. VULCAN QUARRY NEAR GURLEY, ALABAMA

Notes: The small, inner green circle markets the Vulcan Quarry near Gurley, Alabama. The larger green circle is a five-mile radius around the quarry location. The blue dots mark areas of population density using 2010 census data. Map generated using censusviewer.com.



APPENDIX 6. MAP OF AUSTIN QUARRY SITE IN MADERA COUNTY, CALIFORNIA

Notes: The green circle marks the site of the proposed Austin Quarry in Madera County, California. The immediate two areas of population to the South and West of the quarry site—marked in green rectangles—are the "treated" areas. The blue dots mark areas of population density using 2010 census data. The control group is chosen from areas further west and north of Highway 145 toward Madera. Map generated using censusviewer.com.