STATE OF COLORADO

Eschberger - DNR, Amy <amy.eschberger@state.co.us>

Letter of Concern related to Hitch Rack Ranch Quarry

1 message

Nancy Reed <ncr.turkeycreek@gmail.com>
To: amy.eschberger@state.co.us

Tue, Apr 12, 2016 at 4:58 PM

Amy:

Let me introduce myself. I am the president of the Eagles Nest Association, which is an organization of property owners in the Eagles Nest development. This development is located on Little Turkey Creek Road to the west of the proposed Hitch Rack Ranch quarry.

To give you a context for where this development is located, I have attached a Google Earth map. The view is looking from above the proposed quarry towards the northwest. The red house icons are the permanent homes in the development. The yellow house icons indicate the various cabins within the development. The purple pins are vacant lots. There are a total of 36 lots in the development and 30 property owners, since some people own multiple lots.

The owners within Eagles Nest have deep concerns about the proposed quarry. Attached is a letter and report that document those concerns in more detail. I have also attached a second letter which lists a number of questions that I had after I reviewed the Colorado mining rules and regulations as well as the application. In many cases, there was insufficient detail or the wording in the application was such that I wasn't sure whether I had a concern about a given topic until these questions could be answered. I sent both of these via US Mail, but discovered that I could also email them to you. Given that the postal service is likely to be overwhelmed with tax returns this week, I wanted to be sure that you got this material before the deadline next week.

Little Turkey Creek Road is the only means we have to access our properties within Eagles Nest. Our association performs all of the maintenance on the road from the first gate just outside the canyon, then westward into the canyon and all the way through the Eagles Nest development. As expressed in the attached reports, we are especially concerned that quarry operations may block our ingress/egress access road or may damage our road.

I understand that you were going to visit the quarry site today. I saw a group of people standing by cars within the proposed quarry area as I drove home this afternoon. You may have seen me; I was driving the silver SUV. Hopefully, your visit to the canyon today will help you better understand our concerns.

I apologize for the current condition of the road; it must have been quite an adventure for you driving into the canyon today. The association has very limited funds and the canyon has been hit by two major floods in just over two years. The flood in September 2013 took out major sections of the road. During that flood we were blocked in the canyon for nine days by dangerously high levels of water flowing through the stream crossings. We put culverts into the stream crossings in Oct 2013 to try to make the crossings safer during high water flows. We had not fully repaired the road from the 2013 flood damage when the floods in May 2015 took out most of the repairs we had done in 2013 and caused additional damage. We repaired the road three times during the month, only to have subsequent flooding take out the repairs that we had just done. As you can imagine,

given our recent history with flooding in the canyon, we are especially concerned that the quarry will remove vegetation from large segments of the canyon within the quarry operations area. We think that this will cause even worse flooding in the lower canyon, similar to what was experienced in the Waldo Canyon burn area where vegetation was lost due to the wildfire there.

Sincerely,

Nancy Reed

President, Eagles Nest Association

---

3 attachments

Eagles Nest looking northwest.pdf
487K

Eagles Nest Letter to State with Concerns Report.pdf
6941K

Letter with Questions.pdf
1085K

Charles & Nancy Reed

39

11 April 2016

Received:
4/12/2016
(via Email)

Colorado Division of Reclamation, Mining and Safety
1313 Sherman Street, Room 215
Denver, CO 80203

Ms. Amy Eschberger:

This letter is in response to the proposed Reclamation and Mining development at Hitch Rack Ranch, submitted by Transit Mix Concrete Company, Permit No. M2016010. Our primary residence is within the Eagles Nest development, which is located on Little Turkey Creek Road to the west of the proposed quarry.

We object to the application as currently written for the following reasons:

1) Quarry operations within Little Turkey Creek canyon will adversely impact property values within Eagles Nest.
2) Quarry operations will block Little Turkey Creek Road, which is our ingress/egress easement road and provides the only means we have to access our property.
3) Quarry operations will cause more frequent and more severe flooding and landslides within the Little Turkey Creek watershed, which will place a financial burden on affected landowners to repair the road.
4) Quarry operations may have an adverse impact on nearby water wells and may impact water rights within the Little Turkey Creek watershed
5) Quarry operations will adversely affect the safety and security of Eagles Nest landowners and their guests
6) Quarry operations will adversely impact the environment and quality of life within Little Turkey Creek canyon

The enclosed document describes our concerns with the proposed quarry in more detail.

We request that the state seek a second opinion on whether the proposed blasting operations will adversely affect areas outside of the quarry operations area. We are concerned that blasting may cause damage to our easement road or to our property.

We request that the state seek a second opinion from the Colorado Division on Water Resources on three issues:

1) whether the water management system as currently designed will adequately mitigate flood damage within the Little Turkey Creek watershed, including damage to Little Turkey Creek Road
2) whether nearby water wells will be adversely impacted by quarry operations
3) whether the sediment ponds proposed in the water management plan impact water rights within the Little Turkey Creek watershed

We request that the State require Transit Mix to post financial bonds to cover the following:

1) costs associated with repairing damage to Little Turkey Creek Road caused by flooding or landslides.
2) costs associated with repairing damage to nearby water wells and providing water to those residents until the wells can be repaired.

Please notify us of any scheduled meetings concerning the quarry application.

We have only been aware of the quarry proposal since approximately March 2nd, 2016. Obviously, we are at a severe disadvantage in that we have only a short time to review the 800 plus page Transit Mix application, review the Colorado Mining and Reclamation rules and regulations, and consult with subject matter experts in order to analyze the impacts of a mining operation in this neighborhood. The points listed above and those detailed in the attached report provide a snapshot of the issues that require detailed study, review and analysis. While we will continue to research the technical aspects and analyze the adverse impacts in greater detail, we hope that the Colorado DRMS will acknowledge our limited ability to do so within time constraints.

Sincerely,

Nancy Reed for

Charles and Nancy Reed
4848 Little Turkey Creek Road
Colorado Springs, CO 80926
Phone: 719-445-2030

Twenty-two additional Eagles Nest landowners, listed below, agree with our concerns about the proposed quarry and wish to be notified of any scheduled meetings concerning the quarry application:

Paul and Karen Blatchford
6280 Gossamer St
Colorado Springs, CO 80911
Phone: 719-439-8888

Cindy Cockrell
PO Box 266
Rye, Co 81069
Phone: (719) 393-2096

Mathew and Susanna Cook
355 Oakhurst Lane
Colorado Springs, CO 80906
Phone: (719) 576-1516

Robert and Myrt Davidson
1212 Lancelot Circle
College Station, TX 77840
Phone: (979) 693-7782

Paul Dellacroce
5379 Eagle Hill Ht #106
Colorado Springs, CO 80919
Phone: (719) 439-9802

James and Betty Enderson
3215 Austin Drive
Colorado Springs, CO 80909
Phone: (719) 633-6457

Craig and Roseann Engelage
P.O. Box 50111
Colorado Springs, CO 80949
Phone: 719-531-5653

Charles and Denise Hancock
4241 Little Turkey Creek Road
Colorado Springs, Co 80926
Phone: 719-445-2088

Michael and Laura Harvey
c/o Agnes B. Harvey
1885 Paseo Del Oro
Colorado Springs, CO 80904
(719) 471-2297

Mark Henslee, Managing Member
Henslee Family Investments, LLC
245 E Cheyenne Mountain Blvd
Colorado Springs, CO 80906
719-238-5868

Richard and Yvonne Holden
2109 Woodburn Street
Colorado Springs, CO 80906
Phone: 719-635-9953

Monte Junck and Susan Pringle
7155 Painted Rock Drive
Colorado Springs, CO 80911
(719) 390-0691

Charles (Scott) and Kay Kay
1015 Beta Loop
Colorado Springs, CO 80905
Phone: 719-538-9988

Cheryl Kimble
683 Grey Eagle Circle S.
Colorado Springs, CO 80919
Phone: 719-210-9932

Richard and Susan Larsen
6980 Granit Peak Drive
Colorado Springs, CO 80923
Phone: 719-531-6785

Jagger F. & Sharon Lawrence
3510 E. David Ln
Colorado Springs, CO 80917
719-237-9085

Dave and Carol Lick
1940 Spirerock Path
Colorado Springs, CO 80919
Phone 719 262 9947

Dan and Jody Murphy
3150 Slocum Rd
Peyton, CO 80831
Phone: (719) 683-5224

Keith and Cindy Newby
2919 Virginia Ave
Colorado Springs, CO 80907
Phone: 719-330-0937; 719-330-0978

Richard Prinster
1551 Mammoth Drive
O'Fallon, MO 63366
(719) 641-1099

Michael Spoor
2838 Tenderfoot Hills Road
Colorado Springs, CO 80906
Phone: 010-7963-6389 (International Cell)

Steve Woodcock
4990 Little Turkey Creek Road
Colorado Springs, CO 80926
Phone: (719) 392-2975

Copy to:

Congressman Doug Lamborn, U.S. House of Representatives, Colorado's Fifth District
1125 Kelly Johnson Blvd., #330, Colorado Springs, CO 80920

Senator Kevin Grantham, Colorado State Senator, District 2
200 E. Colfax Ave., Denver, CO 80203

Representative Lois Landgraf, Colorado State Representative, District 21
200 E. Colfax Ave., Denver, CO 80203

Concerns of Eagles Nest Landowners

Related to

Proposed Quarry

on Hitch Rack Ranch

Prepared by Dr. Nancy Reed
April 2016

Table of Contents

Table of Figures

In this paper we identify six areas of concern with the proposed quarry:

1. Impact on property values within Eagles Nest
2. Blockage of ingress/egress easement road
3. Financial impact of repairing flood damage
4. Safety and security issues
5. Water issues
6. Impact on the environment

Each of these is discussed in more detail in the sections below.

1. IMPACT ON PROPERTY VALUES WITHIN EAGLES NEST

The proposed quarry operations area is located on a portion of Hitch Rack Ranch along Little Turkey Creek Road within Section 16, Township 16 South, Range 67 West of the 6th P.M., El Paso County, Colorado. In the 1960s the land within Little Turkey Creek canyon to the west of Section 16 was sold to a developer. This land was initially divided into forty lots and called the Eagles Nest subdivision. The area now includes 36 lots within the El Paso County Assessor's database. There are currently 30 landowners within Eagles Nest, with several people owning more than one parcel of land within the canyon.

The Eagles Nest is a very unique enclave located at the back of a mountain canyon, several miles west of Highway 115. Property owners access their properties using a very narrow, rustic, one lane road. They must haul in water or drill water wells and generate their own power, as there are no utilities that reach to the back of the canyon. Buyers for this type of property include only those people who are willing to make major "creature comfort" sacrifices in order to own property or live in a place where they can enjoy the scenic beauty of the canyon in an extremely quiet, peaceful environment, surrounded by wildlife.

Once potential property owners realize that they would have to drive right through the middle of an operational quarry to reach their property and then suffer the noise and dust of those quarry operations and other possible environmental impacts, the appeal of these isolated properties may quickly fade and the already tiny market for Eagles Nest properties may simply evaporate. Unfortunately, buyer perceptions, not reality, often drive the real estate market. If the real estate market is impacted by the presence of the quarry, Eagles Nest property owners wishing to sell their property may be forced to sell at a greatly reduced price, or may not be able to sell their property at all.

2. BLOCKAGE OF INGRESS/EGRESS EASEMENT ROAD

2.1 Blockage of Road by Day-to-day Quarry Operations

Property owners within Eagles Nest, located to the west of the proposed quarry operations area, use Little Turkey Creek Road to access our properties. Our deeds include a description of this ingress/egress easement. A 1968 court settlement defined the location and width of the ingress/egress easement along Little Turkey Creek Road. That ingress/egress easement road is the ONLY means of accessing Eagles Nest properties.

The background for Figure 1 below is parcel map 76000 from the El Paso County Assessor's database. The yellow line shows the location of the easement road defined in the 1968 court settlement. This road is used by landowners with property within Eagles Nest (highlighted in purple), located to the west of the proposed quarry. The fuchsia line shows the location of another segment of Little Turkey Creek Road used by landowners with property within the former Bauer's Ranch (highlighted in green). As can be seen, these two segments of Little Turkey Creek Road go right through the middle of the proposed quarry operations area, which is within Section 16 on Hitch Rack Ranch (outlined in red).

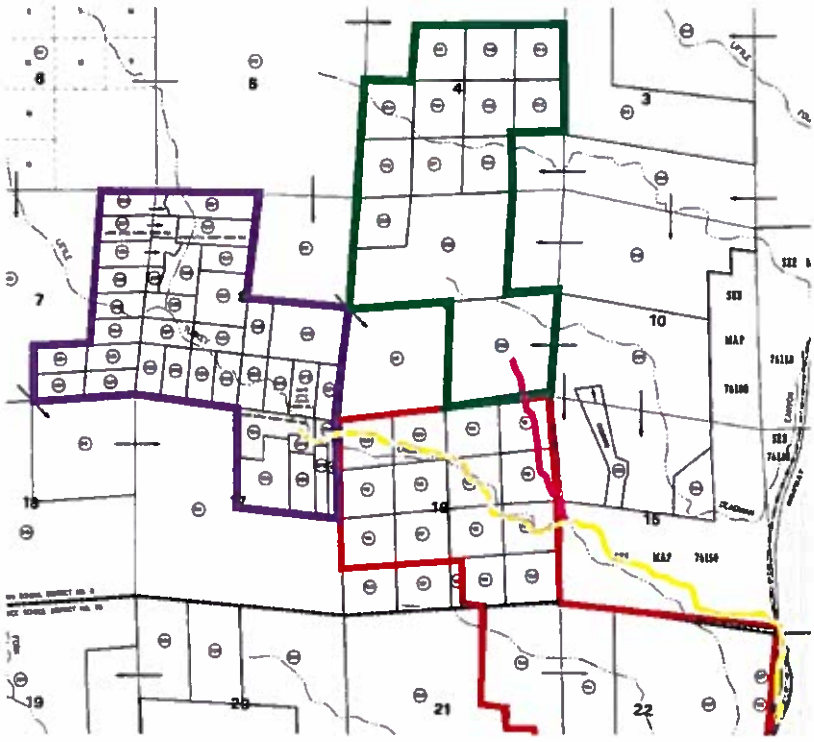


Figure 1 Ingress/Egress Road Easement

Figure 2 shows more details of the proposed quarry operations area. As can be seen, the southern segment of Little Turkey Creek Road (the yellow line) will run between the North and South quarry pits and also run right by the proposed plant location. The width of the

easement is only 10 feet on either side of the center of the road. Any quarry operations that block even a small portion of that ingress/egress easement will negatively impact the ability of owners and their guests to access property within Eagles Nest. It may also impact the ability of emergency services (firefighters or other first responders) to quickly reach those properties. Since there is currently no feasible helicopter landing area within Eagles Nest, emergency services must use Little Turkey Creek Road to access those properties.

The northern segment of Little Turkey Creek Road (the fuchsia line) will run between the North quarry pit and the North Pit Extension. Any quarry operations that block even a small portion of that ingress/egress road may negatively impact the ability of owners and their guests to access property within the former Bauer's Ranch. It may also impact the ability of emergency services (firefighters or other first responders) to quickly reach those properties.

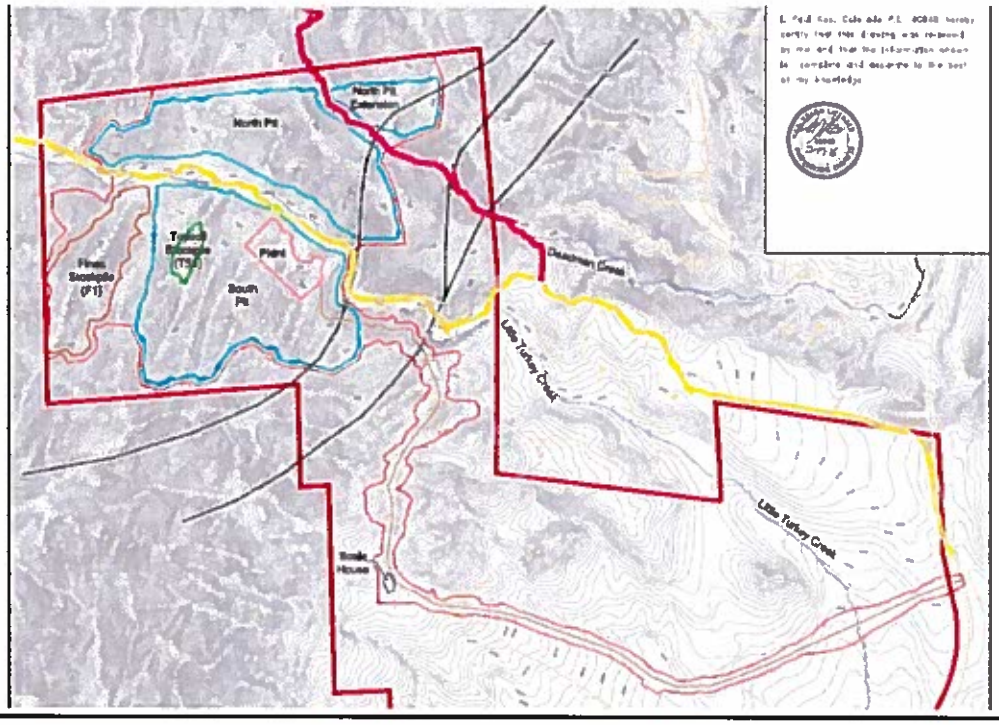


Figure 2 Ingress/Egress Easement Road within Quarry Operations Area

2.2 Blockage of Road by Blasting Operations.

The blasting plan calls for evacuating everyone out of the quarry operations area of the canyon during blasting and using blast guards to prevent access into that area during the actual blasting period. The blasting plan indicates that "Blast guards will be posted at all entrances to the property to make sure no one uses any of the access corridors through the active mining area." The exact location of these blast guards is not specified in the Transit Mix application, but it is assumed that guards will be posted somewhere along Little Turkey Creek Road to prevent access into the quarry operations area along that road. There will also be a guard on the new quarry road, to prevent access into the quarry from that road. The black circles on Figure 3 shows possible areas where these guards might be posted.

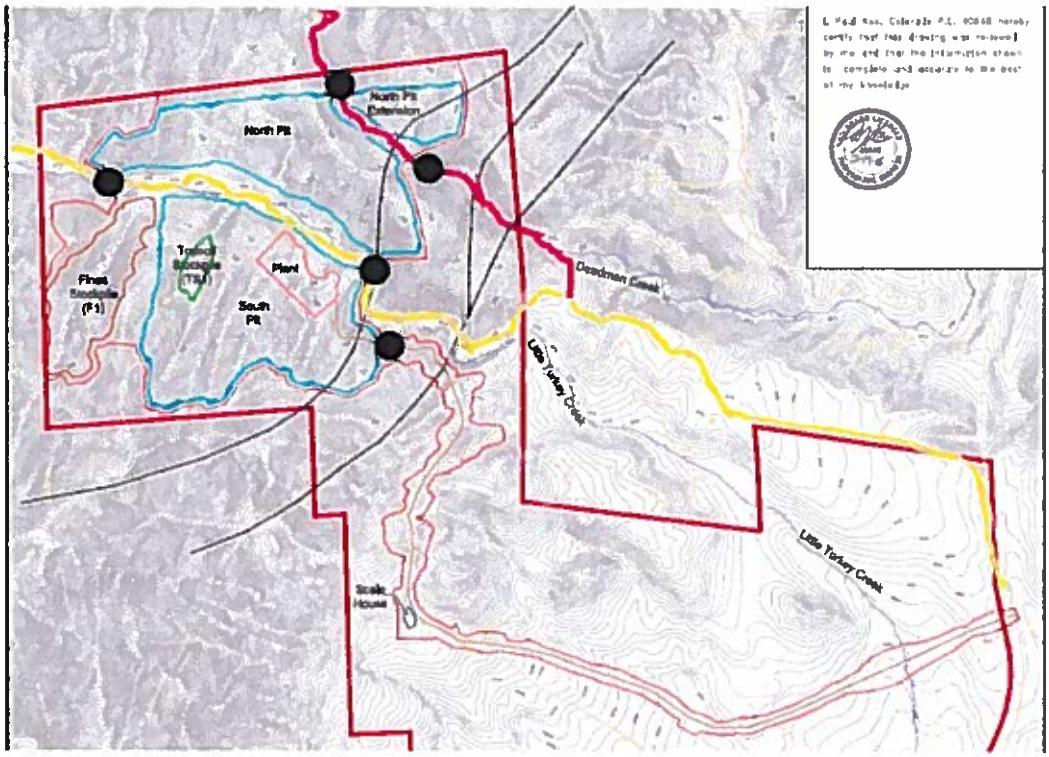


Figure 3 Blockage by Blasting Operations

During normal, successful, blasting operations, Transit Mix indicated that the road would be blocked for about 30 minutes. However, in the event of problems or misfires associated with a blast, Transit Mix indicated that the road could be blocked for hours, possibly up to a day, following the blast. While the road is blocked, landowners within Eagles Nest and the former Bauer's Ranch would not be able to use the ingress/egress road to get to or from their properties.

2.3 Blockage of Road by Landslides Caused by Quarry Operations

One segment of the ingress/egress road within the lower canyon below the proposed quarry operations area, runs directly beneath a hillside that has very unstable material. Rocks are frequently dislodged from the hillside during heavy rains and tumble down onto the road. In the past, rocks as large as a VW bug slid down that hill, blocking the entire road. That hillside is only a few hundred feet southeast of the proposed North Pit. Blasting operations or other quarry activity may further destabilize that hillside, causing more frequent or more severe landslides on that section of the road. The landslides may injure passing motorists or damage their vehicles and may block that portion of the road. The black area highlighted in Figure 4 highlights this section of the road.

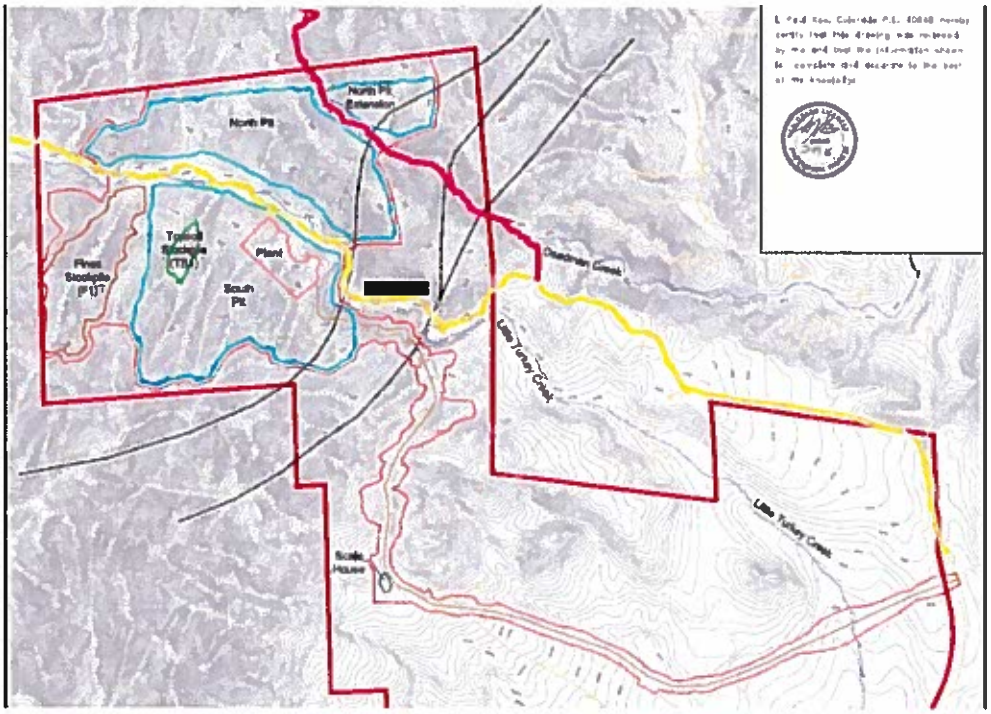


Figure 4 Area of Road in Lower Canyon Prone to Landslides

Figure 5 provides a view of that section of the road using Google Earth, looking towards the east from the quarry operations area. The pink area is the North Pit. The green area is the south pit. The yellow line highlights the portion of the road that is susceptible to landslides. Note the steep slope to the north of the road.

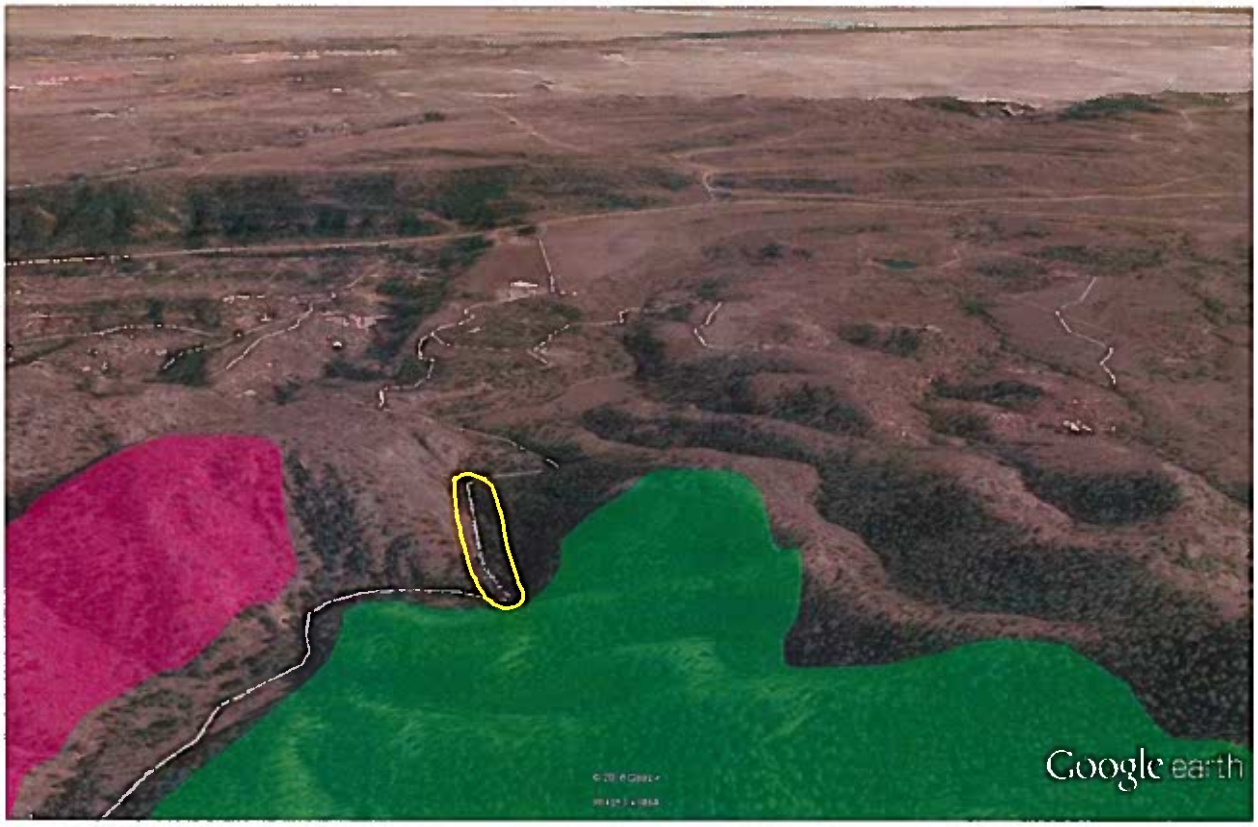


Figure 5 Google Earth View of Lower Canyon Road

A catastrophic landslide within either the North or South Pits of the quarry may cause quarry material to flow across the segment of Little Turkey Creek road that traverses between the North and South Pits. Such a slide may endanger motorists driving along Little Turkey Creek Road and may block the road. Such landslides might be due to quarry blasting, but might also be due to water seeping into cracks in the remaining rocks within the quarry. Rocks flying from the blasting area may also travel as far as the road. A catastrophic landslide within the North Pit Extension may impact the segment of Little Turkey Creek Road used to access properties in the former Bauer's Ranch.

The black areas highlighted in Figure 6 highlight these sections of Little Turkey Creek Road. The application indicates that the quarry pits will be at least a 100 feet from Little Turkey Creek. However, some segments of Little Turkey Creek Road are a significant distance from the creek, which means that the quarry pits may be less than 100 feet from the road.

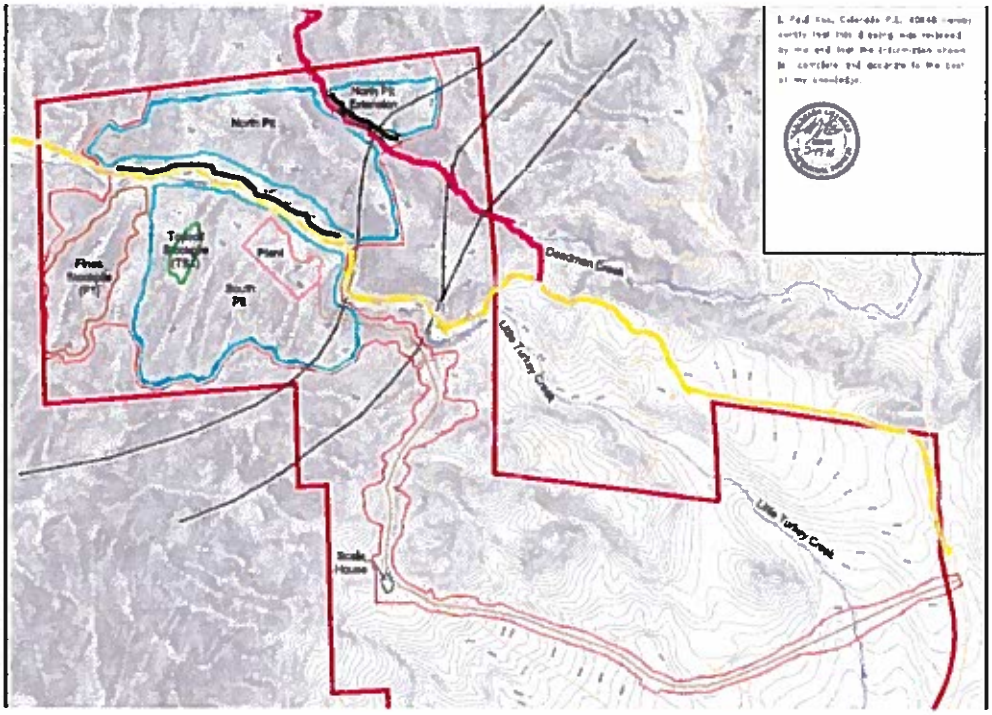


Figure 6 Segment of Road Vulnerable to Landslides within Quarry Pits

Figure 7 shows a Google Earth view looking towards the west into the proposed quarry pits. The yellow line is the segment of Little Turkey Creek Road that is within Little Turkey Creek canyon. The fuchsia line is the segment of Little Turkey Creek Road that is within Deadman Creek canyon. The pink area is the North Pit. The orange area is the North Pit Extension. The green area is the South Pit. As can be seen, Little Turkey Creek Road lies directly beneath the quarry pits. Landslides that flow out of those pits might reach the road.

Figure 7 Google Earth View of Road Below Quarry Pits

2.4 Blockage of Road by Flooding due to Removal of Vegetation within Quarry Operations Area

There has been a history of flooding in the Little Turkey Creek canyon, with significant flooding in 1921, 1935, 1965, 1995, 1997, 2013 and 2015, and minor flooding in other years. In 1921 an earthen dam built near the proposed Plant location failed, flooding the lower canyon. Four times in the past 20 years portions of Little Turkey Creek Road within Section 16 have been badly damaged by floods.

There are four locations on Hitch Rack Ranch within Section 16 where the ingress/egress road crosses over Little Turkey Creek, one in the proposed quarry operations area and three within the lower canyon below the proposed quarry operations area. Before Eagles Nest landowners installed culverts on the stream crossings in 2013, the water depth at the stream crossings would run above 2 feet during heavy rains - an unsafe depth to drive through. During the flooding in 2015 after the culverts were installed, the volume of water running in Little Turkey Creek exceeded the capacity of the two 30 inch culvert pipes installed at each stream crossing and caused the creek to overtop the new culverts. The black circles in Figure 8 show the locations of these four crossings.

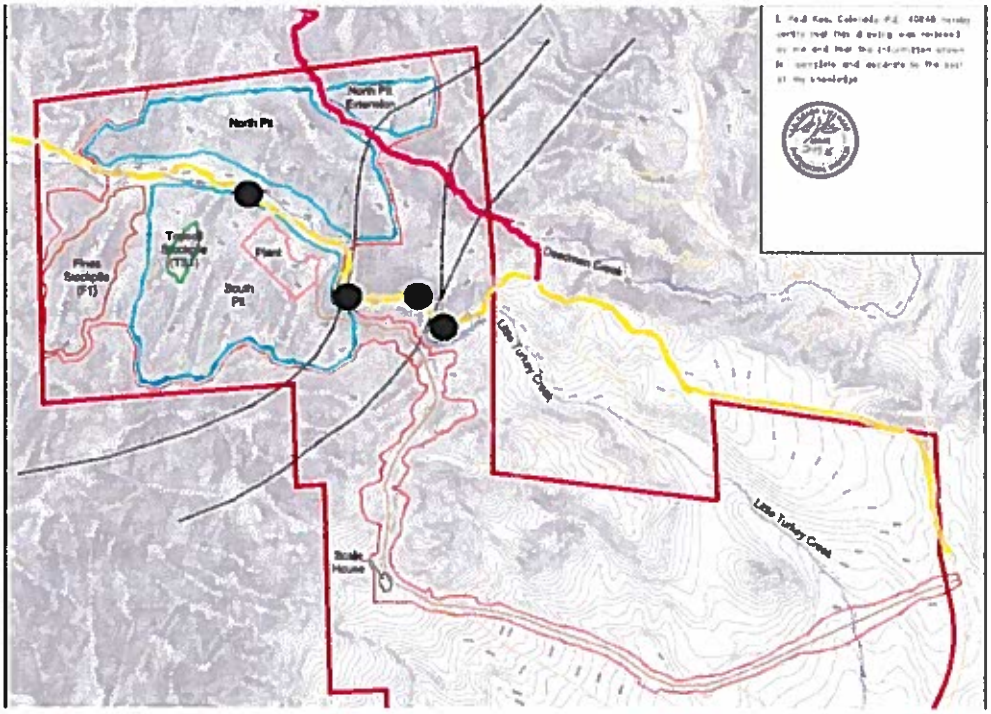


Figure 8 Stream Crossings within Upper Hitch Rack Ranch

There are also several sections of the road that run beside the stream in the lower canyon, only a few feet above the level of the creek bed (highlighted in black in Figure 9). There have been instances where the creek flooded over its banks and ran down portions of the road. There are other locations where side canyons within the Little Turkey Creek watershed drain across the road and down into the creek (highlighted in green in Figure 9). These

draws are normally dry, but can run during heavy rains. At times, the water flowing down these side draws has turned and run down the road, causing damage to the road.

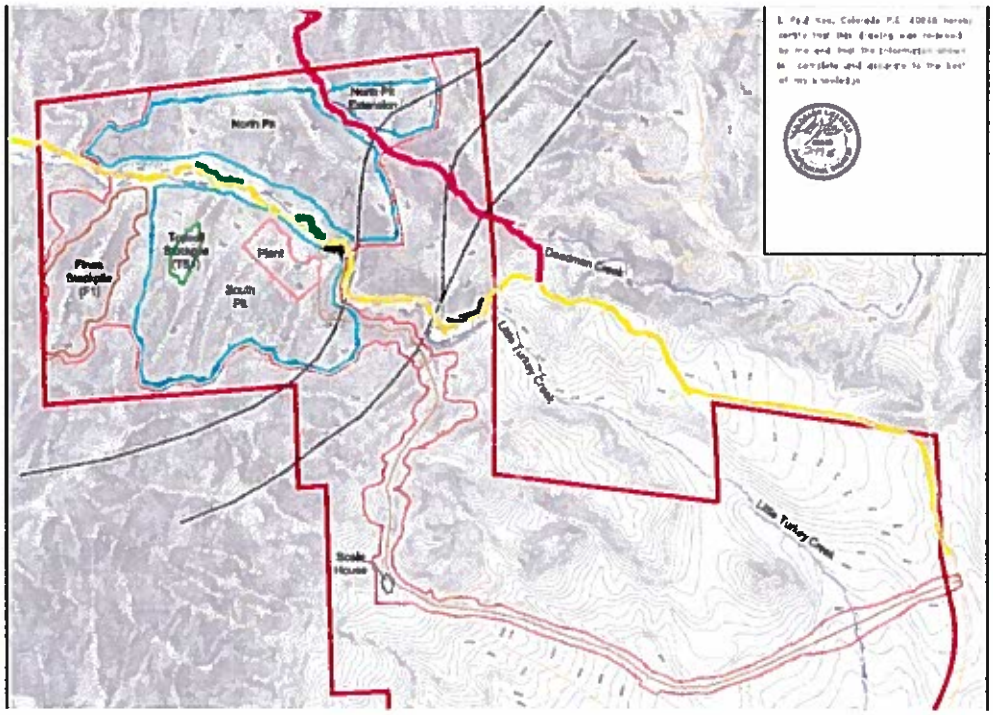


Figure 9 Sections of Road Prone to Flooding

Removal of vegetation within the quarry operations area will increase the frequency and severity of flooding within the lower canyon, resulting in even greater risks to blockage of portions of the road during heavy rains. Figure 10 presents a view of lower Little Turkey Creek Canyon using Google Earth, looking towards the east from the quarry operations area. The white line is Little Turkey Creek Road. The pink area is the proposed North Pit. The green area is the proposed South Pit. The yellow line outlines the lower canyon. As can be seen, the canyon is quite narrow to the east of the proposed quarry operations area. Given the topography of the canyon with its steep canyon walls, flooding within the lower Little Turkey Creek canyon might be as severe as flooding experienced in other areas of Colorado where vegetation was destroyed by wildfires.

Figure 10 Google Earth View of Lower Little Turkey Creek Canyon

2.5 Blockage of Road by Flooding due to Failure of Water Management Structures

The mining plan calls for top soil and "fines" to be stored in piles within the canyon, south of Little Turkey Creek. These piles are shown as TS1 and F1 in Figure 8 below. Presumably, there will also be piles of raw rock awaiting processing as well as finished quarry product awaiting transport that will be stored within the Plant area. Over the life of the quarry, the mining plan indicates that there will be millions of tons of material stored in these piles. The proposed location of these piles is within side canyons of the Little Turkey Creek watershed. Material stored anywhere within the watershed, as well as vegetation and soil remaining within the watershed, may be washed down into the lower canyon during major flooding.

The Transit Mix application includes a water management plan which calls for the construction of ditches and sediment ponds to manage water flows during major flood events. The plan calls for culverts and ditches to handle a 10 year flood event and the sediment ponds to handle a 100 year flood event. Figure 11 shows the water management structures within Little Turkey Creek canyon proposed in the application. These include LTC-CC-1, a culvert on Little Turkey Creek, plus a number of sediment ponds within the Little Turkey Creek watershed (F1-SP-1, P-SP-1, P-SP-2, NP-SP-1 and NP-SP-2). The yellow line in the figure is Little Turkey Creek Road.

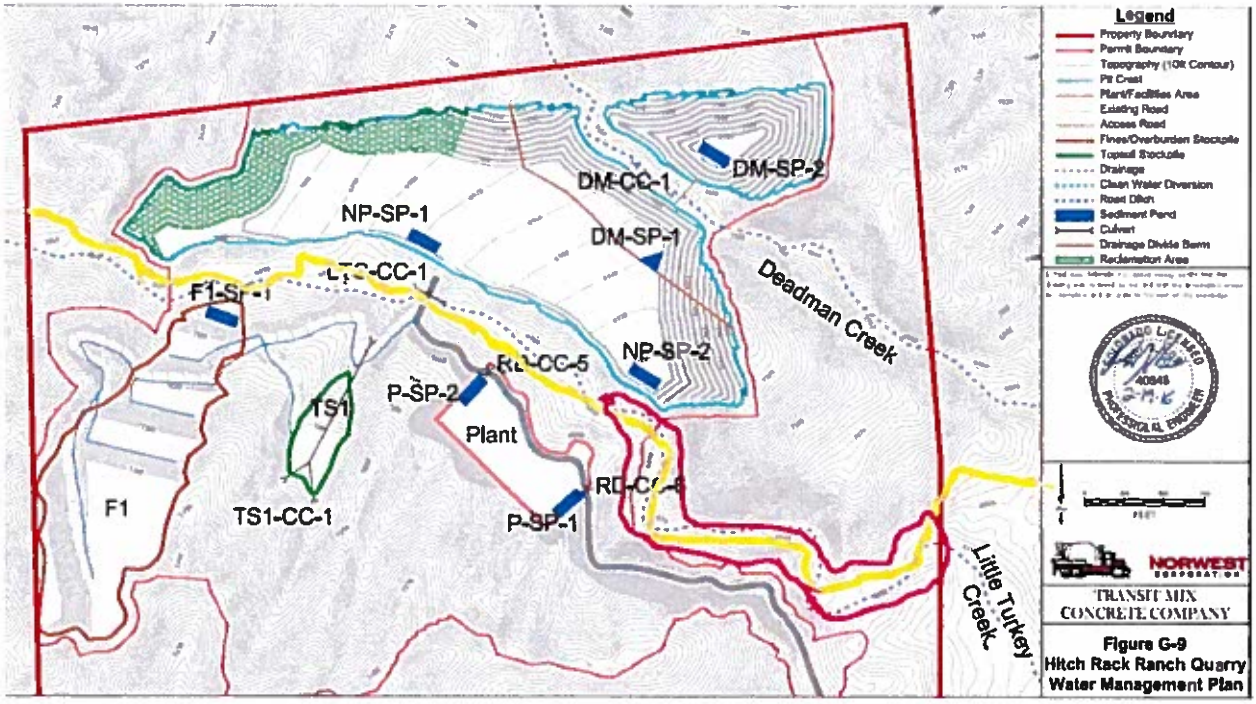


Figure 11 Water Management Structures

The analyses used to design water management structures in Exhibit G used a 10 year flood event of 3.03 inches of precipitation in a 24 hour period and a 100 year flood event of 5.38 inches in a 24 hour period. These figures appear to be based on historical precipitation records collected at the Colorado Springs airport. However, Exhibit K (Climate) within the application indicates that the precipitation figures from the Colorado Springs airport should

not be used without adjustments for the location of the quarry. Below are several quotations from Exhibit K:

> *Perhaps the most distinguishing characteristic of the Colorado Springs climate is the frequency and intensity of thunderstorms during summer. Colorado Springs, according to weather records, is the most thunderstorm prone city west of the Mississippi River followed closely by Flagstaff, Arizona and Garden City, Kansas. Although the city itself has never experienced a super-thunderstorm, the Palmer Divide a few miles north of Colorado Springs has experienced some of the most severe thunderstorms on record anywhere in the world.*
>
> *On May 30, 1935, Elbert, located 35 miles northeast of Colorado Springs, received 24 inches of rain in 24 hours and most of it fell in only 3 hours. Colorado Springs itself received 7 inches of rain in 24 hours on the same date from a related storm to the one that affected Elbert. Monument to the north of Colorado Springs received 14 inches of rain in 24 hours on June 16, 1965. In September 2013, Fort Carson reported received nearly 19 inches of precipitation, and Colorado Springs received 10 inches of rain.*
>
> *Another feature of the Colorado Springs local climate is high geographic variability depending upon the location of the recording equipment. The weather station is east of the city, but limited data from the west side of the city suggests a reasonably different climate, both with respect to precipitation and temperature.* ***Therefore, attempting to apply the official weather station data to conditions on this quarry located in the hills southwest of the city must be done with considerable caution and interpretation****. [Emphasis added.]*

Figure 12, extracted from Exhibit K, shows Daily Rainfalls for various weather stations near the proposed Hitch Rack Ranch Quarry. Note that there are six days in the past 10 years where the rainfall amount exceeded 3 inches (circled in red). This would suggest that the use of 3.03 inches for a 10 year storm is not adequate.

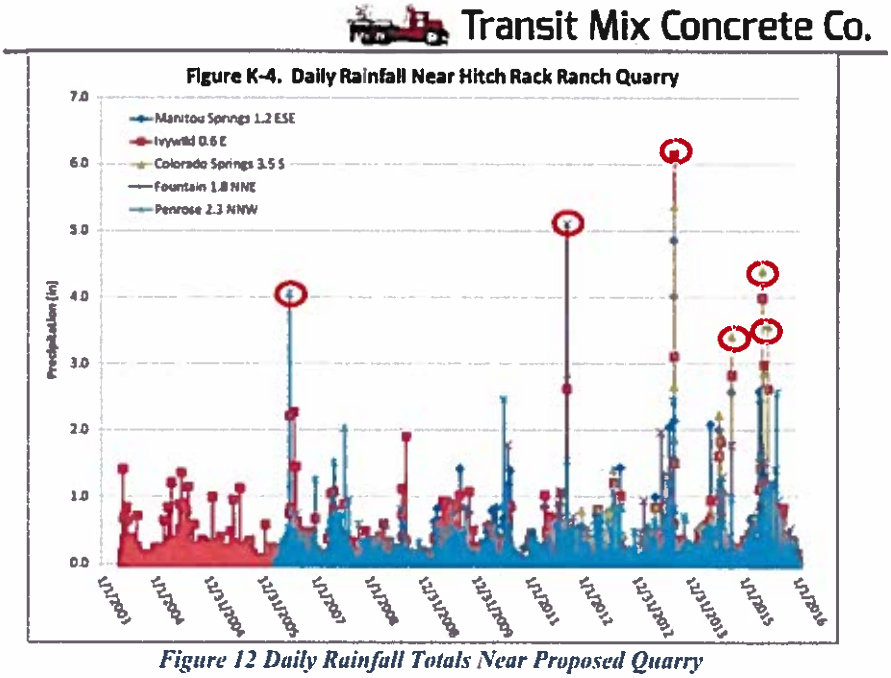


Figure 12 Daily Rainfall Totals Near Proposed Quarry

Furthermore, Eagles Nest landowners have discovered that significant rain during a single day is not the only thing which causes flooding within the canyon. During the May 2015 flooding, single day measurements never exceeded a 10 year flood event. However, heavy rains extending throughout the month caused significant flood damage to Little Turkey Creek Road.

If the LTC-CC-1 culvert fails during a storm, Little Turkey Creek Road below that culvert may be blocked by the flood damage.

The sediment ponds within the Little Turkey Creek watershed are designed to impound over 82 acre feet water if filled to capacity (over 26 million gallons of water). If these sediment ponds fail during a severe flood event, the large volume of water stored in those ponds, plus top soil, fines and other quarry material may be transported down the canyon during that flood event. This may entirely block the road within the lower canyon (highlighted in fuchsia in Figure 13).

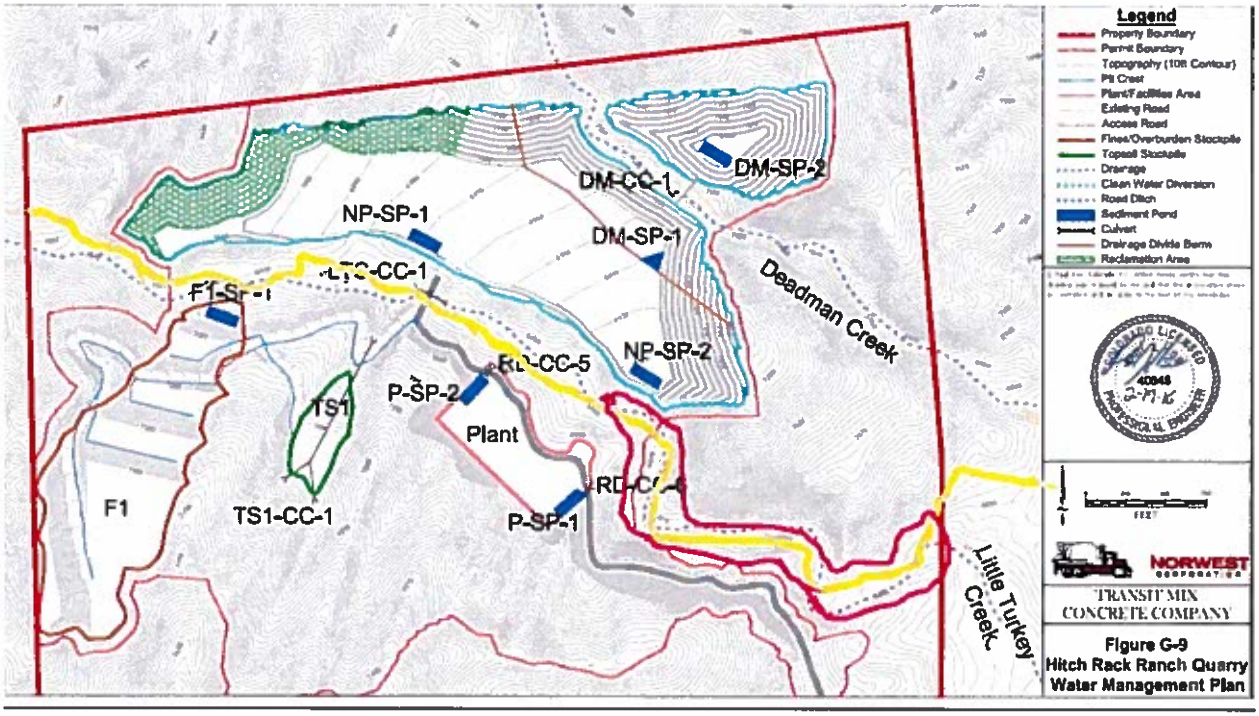


Figure 13 Portion of Little Turkey Creek Road in Lower Canyon

2.6 Blockage of Road by Flooding due to Flows from Reclamation Ditches

Figure 14 is extracted from Figure G-12 of the Transit Mix application. It shows the Water Management Plan for the Final Reclamation Phase. In this plan, there are several ditches which will be built to drain the reclaimed North Pit, South Pit and Fines storage area into Little Turkey Creek. These ditches are the blue lines drawn on the image. Depending on the exact location of these ditches, water flowing from these ditches may run across Little Turkey Creek Road, blocking the road. The possible locations where these ditches may impact the road are circled in red.

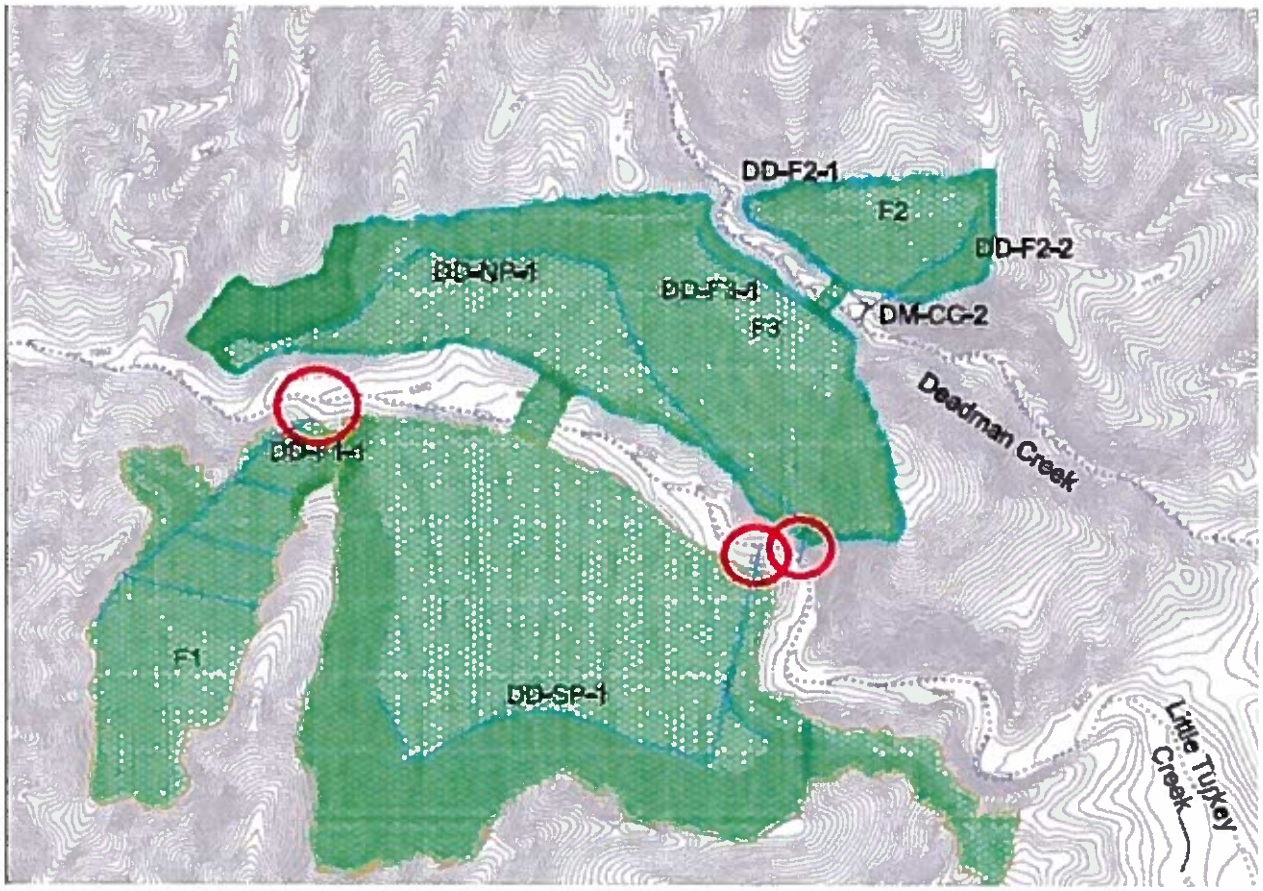


Figure 14 Reclamation Ditches near Little Turkey Creek Road

3. FINANCIAL IMPACT OF FLOOD DAMAGE

3.1 Cost of Repairing Road after Flood Events

Little Turkey Creek Road is a private road maintained by property owners along the road. For almost 50 years, landowners within Eagles Nest have maintained the portion of the road within the south canyon that runs across Hitch Rack Ranch. Little Turkey Creek road is the yellow line in Figure 15. The green oval highlights the portion of the road that runs across Hitch Rack Ranch land within Section 16.

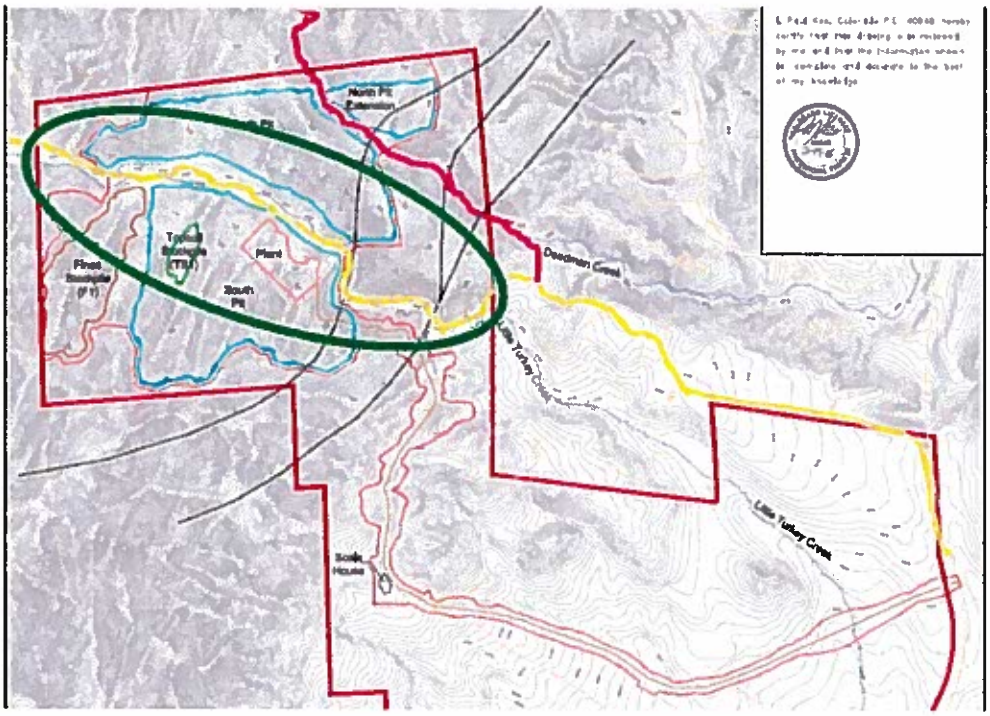


Figure 15 Portion of Little Turkey Creek Road in Section 16

In the 1990s the Hitch Rack Ranch owner realigned the road between the first gate and the first stream crossing to redirect water from Little Turkey Creek into her irrigation ditch. After the 2013 flood, the ranch gave permission to Eagles Nest landowners to use rocks from the historic dam as fill material to repair a segment of the road that was destroyed by water washing onto the road near that dam. Other than those two instances, Hitch Rack Ranch has never contributed towards the maintenance or repair of the road. As a result, maintenance, repairs and improvements of the road within Section 16 have been a financial burden borne entirely by Eagles Nest landowners. That burden has been particularly significant after major flooding events. Any increased frequency or severity of flooding or landslides damaging the road may increase the cost to repair the road, placing an even greater financial burden on Eagles Nest landowners.

If the road is damaged in the future and the landowners are then forced to prove that the quarry operations were responsible for that damage, the legal expenses and expenses for hydrology and geotechnical experts would be an additional financial burden on Eagles Nest landowners.

"Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board for the Extraction of Construction Material" defines "Structure, Significant, Valuable and Man-made" as

> *" a nonportable improvement to real property which has defined, current and recognizable value of an economic nature; generally including but not limited to: buildings, houses, barns, fences, above or below ground utilities, irrigation ditches, maintained or public roads, bridges, railroad tracks, cemeteries, communication antennas, pipelines, water wells, water storage structures, discharge and conveyance structures, etc.*

From this definition we conclude that maintained or public roads are included within permanent, man-made structures. Little Turkey Creek Road is a private road maintained by Eagles Nest landowners. While that road may appear to be an "unimproved road" to outsiders, over the past forty years, Eagles Nest owners have spent tens of thousands of dollars on legal expenses related to the use of that road as an ingress/egress easement as well tens of thousands of dollars on improving, repairing and maintaining the road. That road has considerable value to these owners.

Instructions for Exhibit S related to Permanent Man-Made Structures state that "

> *"Where the mining operation will adversely affect the stability of any significant, valuable and permanent man-made structure located within two hundred (200) feet of the affected land, the applicant may either:*
>
> *(a) provide a notarized agreement between the applicant and the person(s) having an interest in the structure, that the applicant is to provide compensation for any damage to the structure; or*
>
> (b) *where such an agreement cannot be reached, the applicant shall provide an appropriate engineering evaluation that demonstrates that such structure shall not be damaged by activities occurring at the mining operation*

Little Turkey Creek Road, which runs right through the middle of the quarry operations area is not mentioned within Exhibit S as a permanent structure impacted by quarry operations. We believe that the road is at risk of damage due to landslides and flooding caused by quarry operations. No effort has been made by Transit Mix to discuss an agreement with Eagles Nest landowners concerning compensation for future damages to the road.

3.2 Cost of Repairing Property after Flood Events

Catastrophic flood events, which may be more frequent or more severe due to removal of vegetation within the Little Turkey Creek watershed, may damage property and houses located outside the canyon along Little Turkey Creek. Figure 16 shows a small segment of the 2011 Mount Big Chief Colorado Map. The blue line is Little Turkey Creek. The white line is Little Turkey Creek Road. The green oval highlights properties located at the mouth of the canyon

vulnerable to flood events within the Little Turkey Creek watershed. While this property damage will not directly impact Eagles Nest owners, it will certainly impact our neighbors who live further down our road.

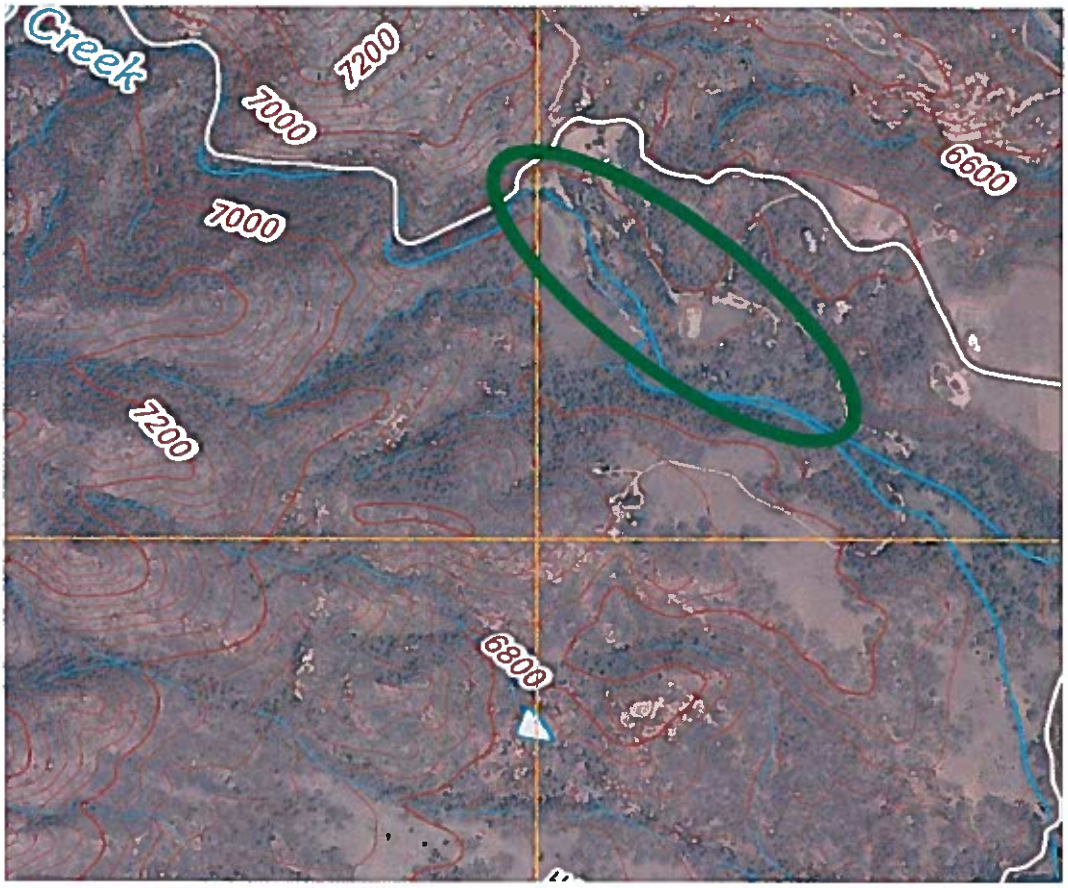


Figure 16 Area at Mouth of Little Turkey Creek Canyon Vulnerable to Flooding

4. WATER ISSUES

4.1 Water Wells

Properties along Little Turkey Creek Road rely on private residential wells. As shown in Exhibit G of the Application, the Transit Mix application identified and located a number of wells within a short distance of the proposed quarry operations area. Figure 17 is extracted from Exhibit G (FIGURE 2 Transit Mix Hitch Rack Ranch Surface Water Feature Location Map).

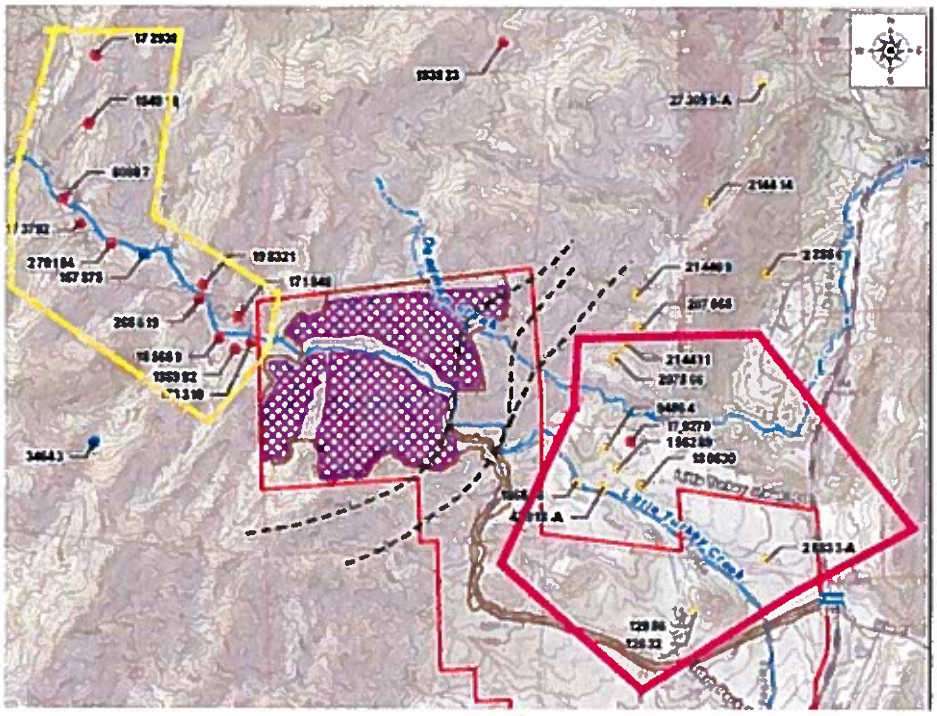


Figure 17 Nearby Water Wells

At least one of the wells within Eagles Nest was omitted from the application information. It happens to be one of the wells closest to the northwest quarry operations boundary. This raised the question of how many additional affected wells were not included in the research and analysis.

Those wells in Eagles Nest located to the northwest of the quarry operations area obtain water from rock fractures (those highlighted in yellow). Any earth movement caused by blasting may disrupt those rock fractures, which may impact the quantity of water available to these wells or damage submersible pumping equipment within the wells. Quarry operations may also inadvertently drain water from these rock fractures, impacting the availability of water to the residential wells above the quarry. The plan recommends the drilling of a test well on the west side of section 16 to monitor if wells above the quarry have been affected by quarry operations. However, if that test well does not happen to hit the same rock fracture as the affected wells, it would be inconclusive whether the operations at the quarry did, indeed, affect wells.

If a landowner's well ceases to yield water, there may be costs associated with trucking water to their property and drilling a new well. If the burden of proof were to fall on the landowners that

quarry operations did, indeed, damage their well, then there could also be a significant financial burden to the landowner to hire geotechnical, hydrology, and legal experts to prove their case.

Fuel oils stored on site or chemicals brought into the canyon and used for blasting operations may contaminate wells located below the proposed operations area (those highlighted in fuchsia). Herbicides used to spray for noxious weeds might also contaminate ground water.

Any heavy metals uncovered by quarry operations may also contaminate wells below the quarry. For example, water tests from one of the landowner's wells located just west of the proposed quarry area identified a high level of lead. The location of this well (highlighted in yellow in Figure 18) may mean that lead deposits will be found within the North and South pits even though test bores did not indicate the presence of lead. Other heavy metals may be found as well during quarry excavations.

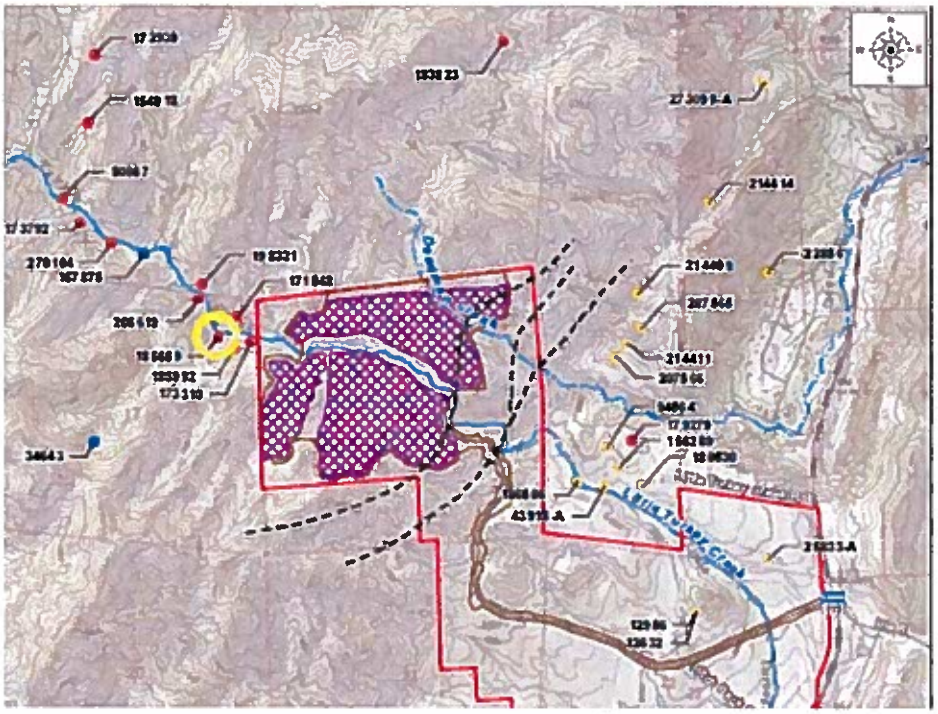


Figure 18 Lead Found in Water Well Test

4.2 Water Rights

The quarry application is supposed to discuss the potential impact of quarry operations on existing water rights. Little Turkey Creek flows through the middle of the proposed quarry operations area. Although Hitch Rack Ranch owns some water rights associated with Little Turkey Creek, these water rights have specific limits. Furthermore, Hitch Rack Ranch does not own *all* of the Little Turkey Creek water rights.

The quarry application indicates that Transit Mix does not plan to divert any water from Little Turkey Creek for quarry operations. However, in 2015 the contractor hired to drill test bores for

the quarry placed a line into Little Turkey Creek and pumped water out of the creek within the proposed quarry operations area for months. Any such pumping in the future would impact water rights associated with diversion of water from the creek.

The water management plan calls for a number of large sediment ponds. Those within the Little Turkey Creek watershed are designed to hold over 82 acre feet water if the ponds are ever filled to capacity. These ponds within the Little Turkey Creek watershed were not discussed within the application in relation to water rights associated with the impoundment of water.

5. SAFETY AND SECURITY ISSUES

5.1 Safety at Intersection of New Quarry Road and Little Turkey Creek Road

The maps provided by Transit Mix shows their new quarry road intersecting Little Turkey Creek Road in the middle of their quarry operations area within the south canyon. Little Turkey Creek Road is the yellow line in Figure 19. The intersection of the new quarry road and Little Turkey Creek road is highlighted in fuchsia.

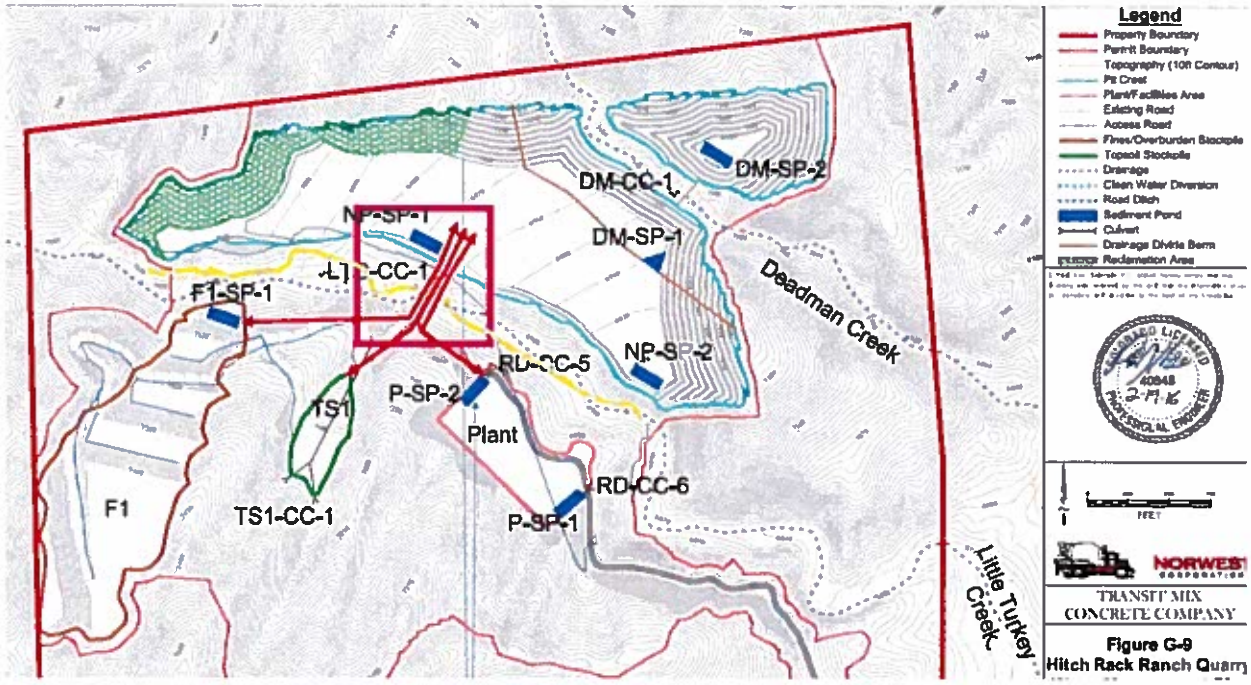


Figure 19 Intersection of New Quarry Road and Little Turkey Creek Road

Over the life of the quarry, millions of tons of material will be moved from the North Pit to the Top Soil Pile (TS1) during the preparation of the North Pit as well as from the North Pit to the Fines Pile (F1) while the temporary processing equipment is located within the North Pit. After the processing equipment is moved to the Plant during regular operations, raw material will be moved from the North Pit to the Plant. In order to move all of this material, large haul trucks will move through that intersection thousands of times a year during peak quarry operations. The size and frequency of haul trucks passing through that intersection may cause a significant safety issue as Eagles Nest landowners and their guests pass through that intersection to reach their properties. The intersection would be especially dangerous if there is no flagman or traffic management at that location, as is usually the case when heavy construction equipment crosses a road during highway projects.

5.2 Safety at Intersection of New Quarry Road and Highway 115.

Figure 20 is a portion of the map provided by Transit Mix which shows the proposed new quarry road coming out to Highway 115 a short distance south of Little Turkey Creek Road. The

yellow line is the existing Little Turkey Creek Road. The green line is Highway 115. The fuchsia circle highlights the intersection.

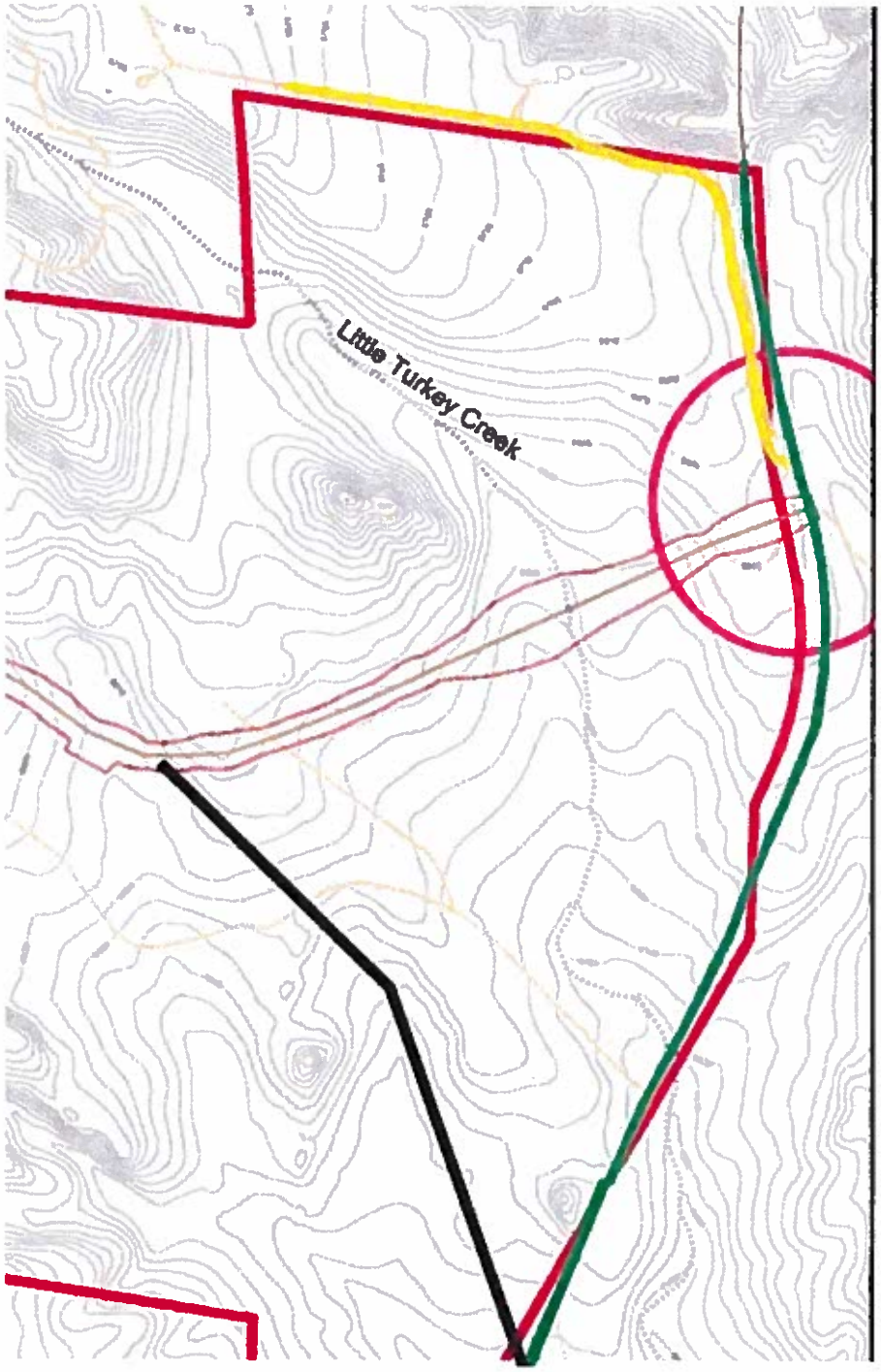


Figure 20 Intersection of New Quarry Road and Highway 115

The Transit Mix flyer and application indicates that there will be up to 2.0 million tons of material removed from the quarry per year during peak operations. This would result in

hundreds of trucks leaving and entering Highway 115 each day at this intersection. That high volume of commercial truck traffic using an intersection such a short distance from Little Turkey Creek Road will increase the risk to landowners or their guests as they use Little Turkey Creek Road.

The proposed intersection is just north of a curve on Highway 115. This curve blocks the view of motorists driving north on Highway 115, making it difficult for them to see the trucks entering the highway.

The proposed new quarry road also enters Highway 115 along a section that is just two lanes wide. Transit Mix has indicated that they plan to add acceleration and deceleration lanes at the new intersection. However, having trucks decelerate just as they approach Little Turkey Creek Road will make it even more difficult for vehicles trying to enter Highway 115 from Little Turkey Creek Road.

Moving the new quarry road further south (as illustrated by the black line in figure 20) would eliminate the issue of the new intersection being so close to Little Turkey Creek Road intersection as well as the of line-of-sight issue with the nearby curve in Highway 115. The proposed relocation of the Highway 115 access point would also eliminate the requirement to build a stream crossing structure over Little Turkey Creek within the lower ranch.

5.3 Safety during Quarry Blasting

The mining plan calls for the evacuation of quarry employees to the scale house during blasting operations. The fact that everyone is being evacuated from the canyon during these blasting operations indicates that people remaining too close to the blasting site may be at risk. It is not clear whether people driving on Little Turkey Creek Road above or below the blast guards, or whether people remaining on their property within Eagles Nest would ever be at risk.

Furthermore, there are several rock formations on properties within Eagles Nest located west of the quarry. Earth vibrations from the blasting may loosen rocks within these outcroppings, causing them to tumble onto the properties below.

5.4 Safety along Little Turkey Creek Road due to Failure of Impoundment Ponds, Stockpiles or Slopes

Rule 8 within "Mineral Rules and Regulations of the Colorado Minded Land Reclamation Board for the Extraction of Construction Materials" indicates that

> *"Operators shall notify the Office, as soon as reasonably practicable, but no later than twenty-four (24) hours, after the Operator has knowledge of a failure or imminent failure of any impoundment, embankment, stockpile or slope that poses a reasonable potential for danger to persons or property".*

Nothing was included in the Emergency Action Plan about notifying anyone of imminent dangers related to these risks. Failure of any of the impoundment ponds, stockpiles or slopes could have a devastating impact on Little Turkey Creek Road and therefore endanger the lives of people using that road to access their properties within Eagles Nest.

5.5 Increased Fire Risk Posed by Quarry Operations

Transit Mix has acknowledged that quarry operations may increase the risk of a wildfire within the canyon. The topography of the narrow canyon may allow a fire to spread very rapidly, placing homes and property within the canyon at risk.

The Emergency Action Plan in Exhibit T does not address wildfires within the canyon, although that is probably the greatest risk due to natural disasters that is likely to occur at the proposed quarry site.

5.6 Security Risk from Trespassers with Eagles Nest

There are currently two locked gates along the segment of Little Turkey Creek Road that runs up to the Eagles Nest area, one at the mouth of the canyon and another at the entrance to Eagles Nest. These locked gates limit access to the Little Turkey Creek canyon and provide at least some measure of security to the property owners within the Eagles Nest. The new planned quarry road will come into the canyon above the gate located at the mouth of the canyon, thereby bypassing one of those locked gates. Quarry operations will also increase the number of people coming into the south canyon, including employees working for the quarry as well as truckers coming into the canyon to pick up material.

A combination of the reduced access control on the road with an increased number of people coming into the canyon may result in more trespassers trying to get into the Eagles Nest, which would impact the security of property within Eagles Nest.

6. IMPACT ON ENVIRONMENT AND QUALITY OF LIFE

6.1 Scenic Views Damaged by Quarry operations

The proposed location of the quarry is within a scenic canyon to the west of Highway 115. That canyon is a combination of steep rocky walls and natural vegetation. Quarry operations will drastically alter a large portion of that canyon.

The quarry plan calls for reducing visibility of the quarry to passing motorists. While this may be the case for motorists passing along Highway 115, the quarry operations area will not be hidden from motorists driving along Little Turkey Creek Road to reach their properties within Eagles Nest.

Eagles Nest is located to the west of the proposed quarry operations area at a higher elevation than the quarry. Today, a number of owners within Eagles Nest enjoy dramatic, scenic views looking east down Little Turkey Creek canyon toward the plains below. In the future, these owners will look down into portions of the quarry operations area.

6.2 Noise Generated by Quarry Operations

The noise associated with blasting and crushing quarry rocks, as well as the noise associated with the operation of large haul vehicles within the quarry operations area and dump trucks transporting material out of the quarry may significantly increase the level of noise in what has historically been a very quiet rural area. The topography of the canyon creates acoustic phenomena in which sound travels a great distance up and down the canyon. For example, property owners living in the canyon four miles from Highway 115 have heard sirens from emergency vehicles on the highway. This doesn't happen all the time, so it is unclear what factors cause this to happen. Limited, short duration, tests intended to determine decibel levels of sounds generated by quarry operations may not uncover this acoustic issue.

Although the application states that Transit Mix plans to meet current regulations regarding noise, nothing is specifically mentioned in the application about how they intend to adequately control the noise from excavation, rock processing equipment or haul trucks.

6.3 Dust Generated by Quarry Operations.

Quarry operations will significantly increase dust in the air within the quarry operations area in the canyon. Transit Mix has indicated that they plan to spray water on the quarry roads, which may help reduce dust from truck traffic. However, the current mining plan calls for "dry" operations. The application does not describe specific steps which Transit Mix plans to take to mitigate the dust generated by drilling operations for blasting, nor for the crushing and screening of rocks. For example, no mention is made whether the processing plant will be enclosed in order to reduce the amount of dust sent into the canyon from rock processing.

Until vegetation covers the top soil and fines piles, there will also be a significant amount of exposed soil stored in piles within the canyon. The topography of the quarry operations area will cause much of the dust to settle temporarily within the quarry operations area in the canyon, as

Transit Mix indicated in their 17 March meeting with landowners. However, the steep sides of the canyon can result in very high winds channeling down the canyon. When these winds occur, the dust which has settled within the quarry operations area will be picked up by these winds and blown out at the canyon mouth.

6.4 Destruction of Bio-diversity of Canyon Environment.

A Colorado state biologist who performed a bird survey in the canyon about ten years ago indicated that this canyon was the most bio-diverse ecosystem within the state of Colorado. Quarry operations will destroy that environment.

The reclamation plan calls for revegetation using a much more limited variety of plants than exists within the canyon today. The Reclamation Plan mentions a Noxious Weed Management Plan as being attached, but no such plan was included in the application.

The estimate for the cost of reclamation appears to be much too low. Statements made in Exhibit L indicate that

> *"Costs are based on a conservative scenario which the mine is developed to full extent of the Phase III, which is approximately 10 years in the future".*

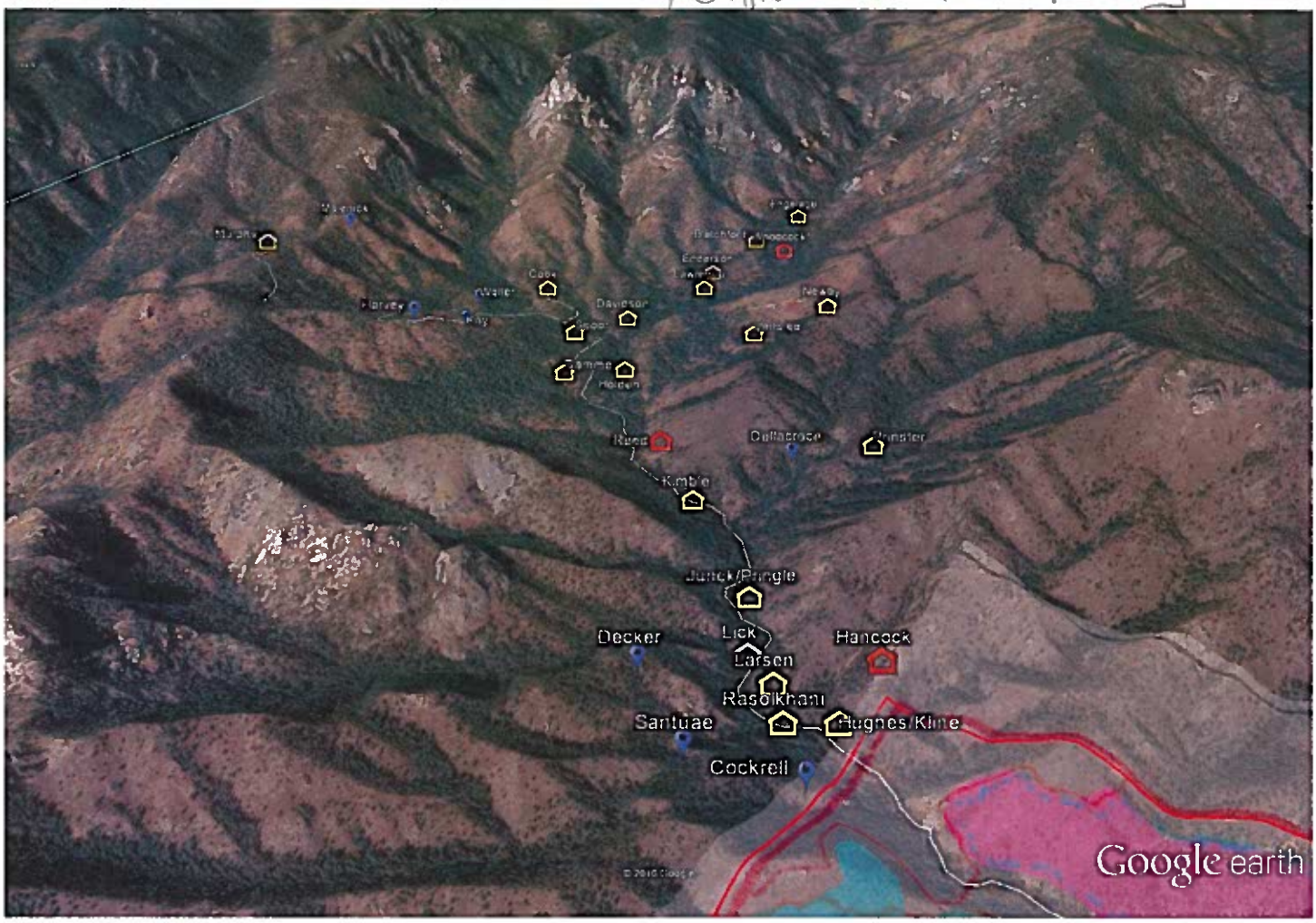
And that

> *"This area does not include areas of Phase I that will be reclaimed during Phase II mining."*

These two assumptions result in a significant portion of the disturbed area being excluded from the reclamation cost estimate. For example, Table D-1 indicates that a total of 392.75 acres will be disturbed during quarry operations, but the reclamation cost estimate only includes revegetation of 107 acres. Table D-1 indicates that 316,816 bank cubic yards (bcy) of topsoil will be removed from the quarry pits during the life of the quarry, but the reclamation cost estimate only calls for 86,644 bcy of topsoil to be returned during the reclamation.

Furthermore, the cost estimate includes a "one mile, downhill haul distance". At least a portion of the distance from the fines and topsoil piles to the quarry pits will need to be uphill to return the material to the terraces within the mine pits.

[Eagles Nest Development]



Google earth feet 3000 meters 900

36 lots in development

30 property owners

Red = permanent homes

Yellow = Cabins

purple = Vacant lots