

Nancy Reed

44

Rec: 4/13/2016
(via email)

11 April 2016

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.

I have reviewed the Transit Mix application as well as the Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board for the Extraction of Construction Materials. The attached document contains questions that I have about the application based on my review of the material. In a number of cases, due to the lack of detail or exact wording within the application, I don't know whether I have concerns about a specific area or not.

Sincerely,

Nancy Reed

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

Questions about Transit Mix Application

Section	Page	#	
Exhibit C: Maps	C-2.	1.	Hitch Rack Ranch Ownership map. Questions: What criteria were used to determine which property owners were shown on this map. Owners within Red Rock Valley were included. Why were very few owners within the Eagles Nest development located to the west of the proposed quarry operations area included? Why were very few owners within the former Bauers ranch located to the northwest of the proposed quarry operations area included?
Exhibit C: Maps	C-2.	2.	Hitch Rack Ranch Ownership map. Question: What criteria were used to determine which road segments were shown on this map? Some segments of Little Turkey Creek Road within the quarry operations area are not included.
Exhibit D: Mining Plan	D-3	3.	“The ultimate pit is designed to maximize resource recovery and to minimize the visibility of the quarry.” Questions: Visibility by whom? Motorists on Highway 115? Motorists on Little Turkey Creek Road? Landowners located to the east of the proposed quarry? Landowners located to the west of the proposed quarry, with views down Little Turkey Creek canyon towards the east?
	D-3.	4.	“The existing local, unimproved private access roads adjacent to Little Turkey Creek and adjacent to Deadman Creek, also remain intact and available for use.” Questions: What is meant by “unimproved”? Is that meant to imply that it is “NOT maintained”? Will these roads ever be used by quarry operations? If so, for what purpose and how frequently?
	D-4	5.	“The actual number of pieces of equipment onsite will increase as production increases.” Question: What is the maximum number of each piece of equipment anticipated at peak production?
	D-4	6.	“Following construction of erosion control measures...” Question: What, specifically, are these measures?
	D-5	7.	“Blasting will be scheduled in such a way that the impact will be minimized to the nearby areas. Question: Which areas are considered to be “nearby”? Just those properties immediately adjacent to the quarry? All property owners on Little Turkey Creek Road? All property owners within Eagles Nest? Does it include all segments of Little Turkey Creek that pass through Section 16?
	D-6	8.	“The exact location of in-pit access and haul road will be based on field observations during the execution of the Plan.” Question: Will any of these haul roads intersect with Little Turkey Creek Road?
	D-16	9.	Explosives use and proof of surrounding stability: “The plan demonstrates that off-site areas will not be adversely affected by blasting per Rule 6.5(4) of the Construction Materials Rules and Regulations”. Question: How, specifically, does the plan demonstrate that vibrations are within the required limits for properties located outside of the quarry operations area? What plans are in place to compensate landowners

			for damage to their property due to blasting? What about damage to Little Turkey Creek Road due to rockslides or flying rocks?
Exhibit D Blasting Plan	D-20	10.	Purpose: "Access to all working areas and particularly those within the impact radius of each blast will be strictly controlled". Question: In this context, what is meant by "impact radius"? Will the impact radius ever extend beyond the boundary of the quarry operations area? Specifically, will it ever extend to property within Eagles Nest or to anywhere on Little Turkey Creek Road?
	D-22	11.	Types of Explosives Used. "Bulk Explosives... ANFO and Fuel oil..." Question: What type and quantity of chemical residue will collect within the Little Turkey Creek watershed from the chemicals used in blasting?
	D-23	12.	Date and Times of Blasting: "... will schedule the blast for an appropriate date and time". Question: How far in advance will this schedule be known?
	D-23	13.	Date and Times of Blasting: Blasting will occur between the hours of 10:00 AM and 4:00 PM, not to exceed a maximum of 3 blasts per week. Questions: If the quarry needed to blast more than 3 times per week, is there a process for requesting additional blasting? Who would approve those additional blasts?
	D-24	14.	Signage "Blast notification signs will be placed at each entrance to Hitch Rack Ranch Quarry to notify customers, as well as the neighbors who use corridors through the active mining area, of the blast schedule. This will require 5 signs in total. Each sign will state whether there is a blast scheduled for the day or not. If there is a blast scheduled, the sign will also display the time the blast is scheduled for. Questions: Where, exactly, will be signs be located on Little Turkey Creek Road? If the time of the blast is modified, will the signs be updated? When will the sign be posted? The day of the blast or before? How close to the actual scheduled time is the blast likely to occur? Is it likely to be delayed? How far in advance of that scheduled time will the road be blocked?
	D-24	15.	Signage "These signs will also communicate the blasting audible signal guide including length of audible signal relating to the timeline before or after the blast. Question: Will there be different combinations of signals depending on factors related to the planned blast, or will the signals always be the same?
	D-24	16.	Communication: "Specific notification of blasting may be given to the nearest neighbors in the event that a blast is planned outside of the normal daily blasting operations." Questions: What is considered to be "nearest neighbors"? Will that include all landowners within Eagles Nest? Will notification only be provided if blast is outside of normal daily blasting? Could the affected landowners request notification of EVERY planned blast?
	D-25	17.	Blast Area Clearing and Firing Procedures "Blast guards will be posted at all entrances to the property". Questions: Does this include locations along Little Turkey Creek Road? If so, where exactly, will the blast guards be positioned? Will BOTH branches of the road (within the Little Turkey Creek watershed and

			within the Deadman's Creek watershed) be blocked for every blast?
	D-25	18.	Blast Area Clearing and Firing Procedures "Audible blast signals will be utilized" ... Question: How far away will this sound be heard?
	D-25	19.	Misfire Procedures. Questions: In a normal blast, how long will Little Turkey Creek Road be blocked? In a typical misfire, how long will Little Turkey Creek Road be blocked? How frequently would misfires be expected? In a "worst case" scenario misfire, how long will Little Turkey Creek Road be blocked?
	D-26	20.	Blast Monitoring Procedures "Seismic instrument(s) will be used to measure ground vibration and peak particle velocity" Questions: Where will these monitors be located? How many? How long will the records be retained after each blast? Will these records be available for viewing by interested landowners within Eagles Nest?
	D-26	21.	Blast Monitoring Procedures Microphones will be used" ... Question: where will these monitors be located? How many? How long will the records be retained after each blast? Will these records be available for viewing by landowners within Eagles Nest?
<u>Exhibit E</u> <u>Exclamation Plan</u>	E-2	22.	"The surrounding land uses are Wildlife Habitat (National Forest) and agricultural to the East." Question: Why is no mention made that there are residential properties to the north and west of the proposed quarry?
	E-3	23.	Top Soil Preservation "Additionally, stockpiled topsoil will be seeded, following initial removal, with a seed mixture that will establish quickly and prevent topsoil loss due to wind and water erosion, as discussed below. Questions: What is the maximum time that the top soil pile will be exposed? Will the top soil pile be seeded only after <i>all</i> of the top soil has been removed during a particular phase of the project?
	E-3	24.	"...As outlined in Rule 3.1.9, Woody vegetation at the site will be removed from or <u>appropriately incorporated in the existing topsoil</u> prior to excavation" Question: Does that mean that the material will be chipped and added to the topsoil pile?
	E-3	25.	"If this is not practicable, the woody vegetation will be chipped to incorporate into subsoils, or used as brush windrows for the project storm management plan". Question: When will the storm water management plan be published?
	E-3	26.	"Topsoil removed from the access road corridor will be stockpiled in windrows adjacent to the access road." Question: How will dust blowing from these stockpiles of topsoil be mitigated?
	E-4 "	27.	"Storm water will be managed throughout both mining and reclamation as discussed in Exhibit G . Storm water from all areas of disturbance will be directed into the existing sedimentation systems for the mine. After the water is clarified it will be discharged into existing drainages. A Colorado Pollutant Discharge System CDPS discharge permit will be obtained and a Storm Water Management Plan (SWMP) prepared and implemented throughout the life of the mine." Questions: When will Colorado Pollutant Discharge System CDPS discharge permit be obtained?: When

			will the SWMP be available for review? Will the Colorado Water Commissioner be reviewing the plans for the sediment ponds to assess the impact of these ponds on water rights of the Little Turkey Creek watershed?
	e-5	28.	Revegetation. "All areas will be seeded with the grass seed mix included in Table E-1 to provide a base revegetated cover." Question: Could wild flower seeds be added to this mix to improve the aesthetics of the revegetated areas?
	E-5	29.	Revegetation. "The reclamation plan for the quarry areas includes re-establishment of a Douglas Fir-Lodgepole pine forest." Questions: There is a much greater diversity of trees currently in the canyon than proposed to be replaced within the reclamation plan. There currently are no Lodgepole pines in the canyon; why are these going to be introduced into the canyon? Why isn't the same level of diversity planned for reclamation? Could aspen be added to this mix to improve the aesthetics of the revegetated areas?
	E-5	30.	"A mixed shrub community of Gambel's Oak and Mountain Mahogany will be established along the access road corridor. The Gambel's Oak-Mountain Mahogany community near the base of the property will be planted with 336 oak or mahogany plugs/acre, supplemented by other woody species including soapweed yucca, Wood's rose, Cliff spirea at a rate of 200 stems per acre." Question: Gambel Oak can present an extreme fire hazard; many homeowners in the area are attempting to remove or reduce the number of these. Can plants be selected for their fire resistance?
	E-5	31.	"Plantings along waterways will be supplemented with deciduous species, including cottonless cottonwood, native willow species, wild plum, snowberry and chokecherry to enhance diversity for wildlife." Question: the plan indicated that there would be no disturbance within 100 feet of Little Turkey Creek or Deadman's creek. What waterways are meant here? Just the crossing at Little Turkey Creek and the crossing at Deadman's creek
	E-5	32.	"Timing of reseeding will be key to the success of the reclamation effort." Question: Since this is a phased reclamation process, how often will the topsoil and fines piles be reseeded?
	E-5	33.	"Prior to planting, bare root seedlings will be dipped in a mycorrhizal solution or inoculant." Question: What other chemicals will be used in quarry reclamation?
Exhibit G Water Information	G-5	34.	"Due to the small data set of measured flow, maximum calculated flow was set at the maximum measured flow plus two standard deviations of the data set resulting in a maximum calculated flow cap of 20.11 cfs". Questions: What is meant by the "maximum calculated flow cap"? How is that figure used in later analyses? Given that only three data points were collected over a three month period, is the data even sufficient to be used in later analyses? The maximum flow that we have seen in recent floods in the lower canyon is FAR greater than the 20.11 cfs. For example, the floods last May overwhelmed the culverts about 200 yards west of the measuring site. Their capacity was 70 cfs.
	G-6	35.	" Figure G-4 illustrated the flow hydrograph at USGS 7092220 during its operating

		period of 1978 to 1988. Calculated flows at the LTC-1 station are similar to the historic flows at USGS 7099220, with higher flows during the spring runoff and summer months and mostly dry conditions during the fall and winter months.” Questions: Given that the LTC-1 station only collected three data points, how can the statement even be made that the flows at the station are “similar to historic flows”? Were no sources available that included the significant floods of 1921, 1935, 1965, 1995, 1997, 2013 and 2015? Without considering the precipitation levels of these flood years in the design of the water management plan, the planned structures may be undersized for the conditions of the canyon.
	G-10	36. “It is likely that storms larger than this will be controlled to some extent, but sediment loads and volumes from larger storms will probably exceed the capability of the system to provide full control. Questions: What 24 hour rain amount was used for this “maximum storm” estimate? What damage is expected to occur to Little Turkey Creek Road or property below the quarry if these structures do NOT provide full control of the flood event? What plans does Transit Mix have to compensate landowners for damage if the water management system is overwhelmed by a flood because they have improperly sized the capacity of the water management structures to deal with flood events?
	G-10	37. “Table G-2 shows the 24-hour storm event data developed based on calculations performed by the National Oceanic and Atmospheric Administration (NOAA, 2013).” Questions: Is this table based on rain figures for the Colorado Springs airport? If so, why were no adjustments were made for the higher rain rates that the canyon experiences, compared to the airport?
	G-15	38. Comment: Table G-6 seems to have the columns incorrectly labeled. The column labeled “100 Yr. 24 hr peak flow appears to be the culvert diameter for a 10 year event. There is therefore NO column for culvert diameter for the 100 year event.
	G-16	39. “In addition to the primary water management structures, secondary sediment control measures should be installed to reduce water and sediment loads on the primary ponds. “Sediment levels should be examined annually following the highest runoff season(i.e. summer), and sediment removal should be undertaken in the fall to prepare the sediment pond for the next rainy season. “ Question: The wording in the document says “SHOULD BE”. Will these measures be included in the Transit Mix plan or not?
	G-17	40. “No acid-forming or toxic materials were identified during the exploratory drilling and sampling program; therefore, no release of pollutants to groundwater is expected” Question: The exploratory drilling collected samples from a VERY small portion of the overall quarry area. Will there be an ongoing testing of excavated material during future quarry operations to determine if acid-forming or toxic producing materials are found during future excavation? If so, what plans do Transit Mix have if these materials are found?
SECAD 4	Hitch	41. 100 year, 24 hour event

	Rack Ranch Quarry Access Road 100 year 24 hr event		Questions: Why is this 100 year storm design included? Earlier the report indicates the design for ditches and culverts is planned to handle a 10 year storm event. Will the culverts be designed for a 10 year storm or a 100 year event?
SECAD 4	Hitch Rack Ranch Culverts, 10 year, 24 hour storm.	42.	TSI-CC-1 and LTC-CC-5 are shown as 100 foot culverts. Question: Is that, in fact, the planned length for these culverts?
SECAD StreamStats Version 3		43.	“Warning: The selected watershed is partly in an area for which flow equations were not defined. Whole-watershed flow estimates have been provided using the regional equations that are available for other parts of the watershed. Weighted flows were not calculated. Users should be careful to evaluate the applicability of the provided estimates.” Questions: Has Transit Mix confirmed that the estimates, are indeed, applicable and appropriate for the canyon? Has Transit Mix discussed the rainfall estimates with the Colorado Division of Water Resources?
Review of Potential Ground and Surface Water Impacts Associated with the Proposed Hitch Rack Ranch Quarry	Page 5	44.	“Earlier in this memo, we acknowledged uncertainty about the possibility of the mine interacting with ground water at distances from the Little Turkey Creek. Specifically, we lack the data to definitively determine that ground water will not be encountered in the southwestern portions of the mining area where mining depths will be as much as approximately 340 feet. Data are not available for us to determine current depths to ground water in these areas. Question: What data would need to be collected to better determine whether ground water would be encountered?
Review of Potential Ground and Surface Water Impacts Associated with the Proposed Hitch Rack Ranch Quarry	Page 5	45.	“ However, there are no water supply wells present in the south half of Section 16, the southeast quarter of Section 17 or all of Sections 20 and 21.” Question: Although there are currently no wells in Section 17, there is vacant land owners by people within Eagles Nest. What happens if wells <i>are</i> drilled in Section 17 in the future? Could they be impacted?

Review of Potential Ground and Surface Water Impacts Associated with the Proposed Hitch Rack Ranch Quarry	Page 6	46.	“Nevertheless, we recommend the installation of two monitoring wells before mining begins to quantify and confirm that ground water level changes are not occurring in water supply wells west and east of the proposed mine. Question: Does the Transmit Mix plan to follow this recommendation and drill these monitoring wells?
Review of Potential Ground and Surface Water Impacts Associated with the Proposed Hitch Rack Ranch Quarry	Page 6	47.	“The monitoring wells will act as an early warning system that will identify any changes in water level associated with the operation of the quarry to the extent that ground water is encountered in the mine area. The monitoring wells will also provide data that may be used by Transit Mix to confirm water level conditions in the event a neighboring well owner claims the operation of the mine has detrimentally impacted water levels in their well.” Question: If the western monitoring well does not tap the same rock fracture as wells located above the quarry, how would that monitoring well effectively determine whether wells have been impacted?
Review of Potential Ground and Surface Water Impacts Associated with the Proposed Hitch Rack Ranch Quarry	Page 7	48.	“The local aquifer and stream system will not be developed for water supply purposes.” Question: This appears to contradict an earlier statement in the application that states that Transit Mix <i>may</i> use Hitch Rack Ranch water or <i>may</i> drill wells. Which is correct?
Review of Potential Ground and Surface Water Impacts Associated with the Proposed Hitch Rack Ranch Quarry	Figure 3 Well Water Location Map	49.	Question: Not all Eagles Nest wells were included, including one that is probably the closest to the proposed quarry operations area. What process was used to identify and select wells for this map?
Wildlife Exhibit	H-2	50.	“Turkeys are common on the lower part of the property year round, and the lower eastern part of the permit area is within turkey winter range, winter concentration area, and production area. Turkeys mostly use the lower parts of the Ranch and are not common in the mining area.” Question: What research or investigation was used as the basis for this statement? Eagles Nest property

			owners who regularly drive on Little Turkey Creek Road within the proposed quarry area FREQUENTLY see turkeys within this area.
Exhibit L Reclamation Costs	L-6	51.	Table L-1 indicates costs to move 86,644 bcy of topsoil. Table D-2 shows that 316,816 bcy of topsoil is planned to be removed over the life of the quarry. Question: Why is there such a large difference in the amount of topsoil removed versus the amount being replaced during reclamation?
Exhibit L Reclamation Costs	L-6	52.	Table L-1 indicates costs to revegetate 107 acres. Question: Table D-2 shows an area of almost 393 acres that will be mined. Why is there such a large difference in the acres mined versus the acres revegetated?
Exhibit L Reclamation Costs	L-6	53.	Table L-1 indicates hauling "One-mile, downhill, one-way haul distance". Question: Does this "downhill" haul of 35 ton haul trucks adequately account for delivering material up to the terraces within the quarry pits?
Exhibit S		54.	"The only man-made structures are utility lines along Highway 115 near the entrance to the property on the east end of the permit boundary. There are no permanent man-made structures within 200-feet of the permit area other than the Hitch Rack Ranch Quarry itself." Question: The Mining Rules and Regulations define Permanent Structure to include " <u>Maintained and public roads</u> ". Little Turkey Creek Road is a private road, but it IS maintained by owners within Eagles Nest. The road will traverse right through the middle of the quarry operations area. Why was the road not mentioned as a permanent structure within 200 feet of the quarry operations? Why was no attempt made by Transit Mix to discuss possible damage to the road by quarry operations (such as blasting and rockslides).
Exhibit T Emergency Action Plan	T-14	55.	SEVERE WEATHER AND NATURAL DISASTERS. The emergency plan provides steps to take for a hurricane (which seems rather unlikely in the area of the quarry), but does NOT include plans for a wildfire – which seems <i>much</i> more likely. (The plan does include structure fires.) Questions: Why is there no emergency plan for a wildfire? The FAQ on the Transit Mix web site indicates that Transit Mix employees will be trained to be wildland firefighters. Where is this mentioned in the application?
Exhibit T Emergency Action Plan	T-14	56.	SEVERE WEATHER AND NATURAL DISASTERS Question: Why is there no mention in the emergency plan of the situation where the sediment ponds overflow during heavy rain events, as required by RULE 8 in the Mining Rules and Regulations?
Hitch Rack Ranch Pit Wall Geotechnical Assessment – Rev. B / 591-4	17	57.	"Instrumented groundwater monitoring holes should be considered behind highwalls where natural topography continues above the pit crest (i.e., where there is potential to develop pore pressures higher than a simple saturated slope; although this is considered unlikely in a blocky rock mass). Proposed pit development for the area north of Little Turkey Creek indicates four (4) potential locations for installations. Question: The wording says "SHOULD BE CONSIDERED". Does Transit Mix, in fact, plan to include these groundwater monitoring holes?
Hitch Rack Ranch	P 17	58.	"Controlled blasting practices should be utilized in order to minimize damage to the final

Pit Wall Geotechnical Assessment – Rev. B / 591-4			walls.” Question: This only mentions minimizing damage to final walls of the quarry; no mention is made of impacts to off-site locations (such as property within Eagles Nest or Little Turkey Creek Road). What measures will be taken to assure that there is no impact to off-site locations?
Hitch Rack Ranch Pit Wall Geotechnical Assessment – Rev. B / 591-4	P 17	59.	“Pit slope movement monitoring should be conducted at routine time intervals with EDM/Prism surveying, laser scanning, and/or extensometers. It is recommended that the movement monitoring plan be developed during initial mining as it will be influenced by wall performance. The plan should be implemented as final highwalls start to be developed.” Question: Wording says “SHOULD BE CONSIDERED”. Does Transit Mix, in fact, plan to perform these monitoring tasks?
Hitch Rack Ranch Pit Wall Geotechnical Assessment – Rev. B / 591-4 Appendix G, Bench L-R and Rock Fall results	Figure G.2	60.	Figure shows the proposed design for catch berms. As designed, these will catch 99% of the rocks that fall. Question: Given that 1% of the rocks will NOT be caught by the berms, what protection will be added to ensure that rocks do not fall or roll onto the Little Turkey Creek Road at the base of the quarry pits?

Questions about Transit Mix Application

Section	Page	#	
Exhibit C: Maps	C-2.	1.	Hitch Rack Ranch Ownership map. Questions: What criteria were used to determine which property owners were shown on this map. Owners within Red Rock Valley were included. Why were very few owners within the Eagles Nest development located to the west of the proposed quarry operations area included? Why were very few owners within the former Bauers ranch located to the northwest of the proposed quarry operations area included?
		2.	Hitch Rack Ranch Ownership map. Question: What criteria were used to determine which road segments were shown on this map? Some segments of Little Turkey Creek Road within the quarry operations area are not included.
Exhibit D: Mining Plan	D-3	3.	"The ultimate pit is designed to maximize resource recovery and to minimize the visibility of the quarry." Questions: Visibility by whom? Motorists on Highway 115? Motorists on Little Turkey Creek Road? Landowners located to the east of the proposed quarry? Landowners located to the west of the proposed quarry, with views down Little Turkey Creek canyon towards the east?
		4.	"The existing local, unimproved private access roads adjacent to Little Turkey Creek and adjacent to Deadman Creek, also remain intact and available for use." Questions: What is meant by "unimproved"? Is that meant to imply that it is "NOT maintained"? Will these roads ever be used by quarry operations? If so, for what purpose and how frequently?
	D-4	5.	"The actual number of pieces of equipment onsite will increase as production increases." Question: What is the maximum number of each piece of equipment anticipated at peak production?
	D-4	6.	"Following construction of erosion control measures...." Question: What, specifically, are these measures?
	D-5	7.	"Blasting will be scheduled in such a way that the impact will be minimized to the nearby areas. Question: Which areas are considered to be "nearby"? Just those properties immediately adjacent to the quarry? All property owners on Little Turkey Creek Road? All property owners within Eagles Nest? Does it include all segments of Little Turkey Creek that pass through Section 16?
	D-6	8.	"The exact location of in-pit access and haul road will be based on field observations during the execution of the Plan." Question: Will any of these haul roads intersect with Little Turkey Creek Road?
	D-16	9.	Explosives use and proof of surrounding stability: "The plan demonstrates that off-site areas will not be adversely affected by blasting per Rule 6.5(4) of the Construction Materials Rules and Regulations". Question: How, specifically, does the plan demonstrate that vibrations are within the required limits for properties located outside of the quarry operations area? What plans are in place to compensate landowners

			for damage to their property due to blasting? What about damage to Little Turkey Creek Road due to rockslides or flying rocks?
Exhibit D Blasting Plan	D-20	10.	Purpose: "Access to all working areas and particularly those within the impact radius of each blast will be strictly controlled". Question: In this context, what is meant by "impact radius"? Will the impact radius ever extend beyond the boundary of the quarry operations area? Specifically, will it ever extend to property within Eagles Nest or to anywhere on Little Turkey Creek Road?
	D-22	11.	Types of Explosives Used. "Bulk Explosives... ANFO and Fuel oil..." Question: What type and quantity of chemical residue will collect within the Little Turkey Creek watershed from the chemicals used in blasting?
	D-23	12.	Date and Times of Blasting: "... will schedule the blast for an appropriate date and time". Question: How far in advance will this schedule be known?
	D-23	13.	Date and Times of Blasting: Blasting will occur between the hours of 10:00 AM and 4:00 PM, not to exceed a maximum of 3 blasts per week. Questions: If the quarry needed to blast more than 3 times per week, is there a process for requesting additional blasting? Who would approve those additional blasts?
	D-24	14.	Signage "Blast notification signs will be placed at each entrance to Hitch Rack Ranch Quarry to notify customers, as well as the neighbors who use corridors through the active mining area, of the blast schedule. This will require 5 signs in total. Each sign will state whether there is a blast scheduled for the day or not. If there is a blast scheduled, the sign will also display the time the blast is scheduled for. Questions: Where, exactly, will be signs be located on Little Turkey Creek Road? If the time of the blast is modified, will the signs be updated? When will the sign be posted? The day of the blast or before? How close to the actual scheduled time is the blast likely to occur? Is it likely to be delayed? How far in advance of that scheduled time will the road be blocked?
	D-24	15.	Signage "These signs will also communicate the blasting audible signal guide including length of audible signal relating to the timeline before or after the blast. Question: Will there be different combinations of signals depending on factors related to the planned blast, or will the signals always be the same?
	D-24	16.	Communication: "Specific notification of blasting may be given to the nearest neighbors in the event that a blast is planned outside of the normal daily blasting operations." Questions: What is considered to be "nearest neighbors"? Will that include all landowners within Eagles Nest? Will notification only be provided if blast is outside of normal daily blasting? Could the affected landowners request notification of EVERY planned blast?
	D-25	17.	Blast Area Clearing and Firing Procedures "Blast guards will be posted at all entrances to the property". Questions: Does this include locations along Little Turkey Creek Road? If so, where exactly, will the blast guards be positioned? Will BOTH branches of the road (within the Little Turkey Creek watershed and

			within the Deadman's Creek watershed) be blocked for every blast?
	D-25	18.	Blast Area Clearing and Firing Procedures "Audible blast signals will be utilized" ... Question: How far away will this sound be heard?
	D-25	19.	Misfire Procedures. Questions: In a normal blast, how long will Little Turkey Creek Road be blocked? In a typical misfire, how long will Little Turkey Creek Road be blocked? How frequently would misfires be expected? In a "worst case" scenario misfire, how long will Little Turkey Creek Road be blocked?
	D-26	20.	Blast Monitoring Procedures "Seismic instrument(s) will be used to measure ground vibration and peak particle velocity" Questions: Where will these monitors be located? How many? How long will the records be retained after each blast? Will these records be available for viewing by interested landowners within Eagles Nest?
	D-26	21.	Blast Monitoring Procedures Microphones will be used" ... Question: where will these monitors be located? How many? How long will the records be retained after each blast? Will these records be available for viewing by landowners within Eagles Nest?
Exhibit E Exclamation Plan	E-2	22.	"The surrounding land uses are Wildlife Habitat (National Forest) and agricultural to the East." Question: Why is no mention made that there are residential properties to the north and west of the proposed quarry?
	E-3	23.	Top Soil Preservation "Additionally, stockpiled topsoil will be seeded, following initial removal, with a seed mixture that will establish quickly and prevent topsoil loss due to wind and water erosion, as discussed below. Questions: What is the maximum time that the top soil pile will be exposed? Will the top soil pile be seeded only after <i>all</i> of the top soil has been removed during a particular phase of the project?
	E-3	24.	"... As outlined in Rule 3.1.9, Woody vegetation at the site will be removed from or <u>appropriately incorporated in the existing topsoil</u> prior to excavation" Question: Does that mean that the material will be chipped and added to the topsoil pile?
	E-3	25.	"If this is not practicable, the woody vegetation will be chipped and added to the topsoil pile, or used as brush windrows for the project storm management plan". Question: When will the storm water management plan be published?
	E-3	26.	"Topsoil removed from the access road corridor will be stockpiled in windrows adjacent to the access road." Question: How will dust blowing from these stockpiles of topsoil be mitigated?
	E-4 "	27.	"Storm water will be managed throughout both mining and reclamation as discussed in Exhibit G . Storm water from all areas of disturbance will be directed into the existing sedimentation systems for the mine. After the water is clarified it will be discharged into existing drainages. A Colorado Pollutant Discharge System CDPS discharge permit will be obtained and a Storm Water Management Plan (SWMP) prepared and implemented throughout the life of the mine." Questions: When will Colorado Pollutant Discharge System CDPS discharge permit be obtained?: When

			will the SWMP be available for review? Will the Colorado Water Commissioner be reviewing the plans for the sediment ponds to assess the impact of these ponds on water rights of the Little Turkey Creek watershed?
	e-5	28.	Revegetation. "All areas will be seeded with the grass seed mix included in Table E-1 to provide a base revegetated cover." Question: Could wild flower seeds be added to this mix to improve the aesthetics of the revegetated areas?
	E-5	29.	Revegetation. "The reclamation plan for the quarry areas includes re-establishment of a Douglas Fir-Lodgepole pine forest." Questions: There is a much greater diversity of trees currently in the canyon than proposed to be replaced within the reclamation plan. There currently are no Lodgepole pines in the canyon; why are these going to be introduced into the canyon? Why isn't the same level of diversity planned for reclamation? Could aspen be added to this mix to improve the aesthetics of the revegetated areas?
	E-5	30.	"A mixed shrub community of Gambel's Oak and Mountain Mahogany will be established along the access road corridor. The Gambel's Oak-Mountain Mahogany community near the base of the property will be planted with 336 oak or mahogany plugs/acre, supplemented by other woody species including soapweed yucca, Wood's rose, Cliff spirea at a rate of 200 stems per acre." Question: Gambel Oak can present an extreme fire hazard; many homeowners in the area are attempting to remove or reduce the number of these. Can plants be selected for their fire resistance?
	E-5	31.	"Plantings along waterways will be supplemented with deciduous species, including cottonless cottonwood, native willow species, wild plum, snowberry and chokecherry to enhance diversity for wildlife." Question: the plan indicated that there would be no disturbance within 100 feet of Little Turkey Creek or Deadman's creek. What waterways are meant here? Just the crossing at Little Turkey Creek and the crossing at Deadman's creek
	E-5	32.	"Timing of reseedling will be key to the success of the reclamation effort." Question: Since this is a phased reclamation process, how often will the topsoil and fines piles be reseeded?
	E-5	33.	"Prior to planting, bare root seedlings will be dipped in a mycorrhizal solution or inoculant." Question: What other chemicals will be used in quarry reclamation?
Exhibit G Water Information	G-5	34.	"Due to the small data set of measured flow, maximum calculated flow was set at the maximum measured flow plus two standard deviations of the data set resulting in a maximum calculated flow cap of 20.11 cfs". Questions: What is meant by the "maximum calculated flow cap"? How is that figure used in later analyses? Given that only three data points were collected over a three month period, is the data even sufficient to be used in later analyses? The maximum flow that we have seen in recent floods in the lower canyon is FAR greater than the 20.11 cfs. For example, the floods last May overwhelmed the culverts about 200 yards west of the measuring site. Their capacity was 70 cfs.
	G-6	35.	" Figure G-4 illustrated the flow hydrograph at USGS 709220 during its operating

		period of 1978 to 1988. Calculated flows at the LTC-1 station are similar to the historic flows at USGS 7099220, with higher flows during the spring runoff and summer months and mostly dry conditions during the fall and winter months.” Questions: Given that the LTC-1 station only collected three data points, how can the statement even be made that the flows at the station are “similar to historic flows”? Were no sources available that included the significant floods of 1921, 1935, 1965, 1995, 1997, 2013 and 2015? Without considering the precipitation levels of these flood years in the design of the water management plan, the planned structures may be undersized for the conditions of the canyon.
	G-10	36. “It is likely that storms larger than this will be controlled to some extent, but sediment loads and volumes from larger storms will probably exceed the capability of the system to provide full control. Questions: What 24 hour rain amount was used for this “maximum storm” estimate? What damage is expected to occur to Little Turkey Creek Road or property below the quarry if these structures do NOT provide full control of the flood event? What plans does Transit Mix have to compensate landowners for damage if the water management system is overwhelmed by a flood because they have improperly sized the capacity of the water management structures to deal with flood events?”
	G-10	37. “Table G-2 shows the 24-hour storm event data developed based on calculations performed by the National Oceanic and Atmospheric Administration (NOAA, 2013).” Questions: Is this table based on rain figures for the Colorado Springs airport? If so, why were no adjustments were made for the higher rain rates that the canyon experiences, compared to the airport?
	G-15	38. Comment: Table G-6 seems to have the columns incorrectly labeled. The column labeled “100 Yr. 24 hr peak flow appears to be the culvert diameter for a 10 year event. There is therefore NO column for culvert diameter for the 100 year event.
	G-16	39. “In addition to the primary water management structures, secondary sediment control measures should be installed to reduce water and sediment loads on the primary ponds. “Sediment levels should be examined annually following the highest runoff season(i.e. summer), and sediment removal should be undertaken in the fall to prepare the sediment pond for the next rainy season. “ Question: The wording in the document says “SHOULD BE”. Will these measures be included in the Transit Mix plan or not?
	G-17	40. “No acid-forming or toxic materials were identified during the exploratory drilling and sampling program; therefore, no release of pollutants to groundwater is expected” Question: The exploratory drilling collected samples from a VERY small portion of the overall quarry area. Will there be an ongoing testing of excavated material during future quarry operations to determine if acid-forming or toxic producing materials are found during future excavation? If so, what plans do Transit Mix have if these materials are found?
SECAD 4	Hitch	41. 100 year, 24 hour event

	Rack Ranch Quarry Access Road 100 year 24 hr event		Questions: Why is this 100 year storm design included? Earlier the report indicates the design for ditches and culverts is planned to handle a 10 year storm event. Will the culverts be designed for a 10 year storm or a 100 year event?
SECAD 4	Hitch Rack Ranch Culverts, 10 year, 24 hour storm.	42.	TS1-CC-1 and LTC-CC-1 through LTC-CC-5 are shown as 100 foot culverts. Question: Is that, in fact, the planned length for these culverts?
SECAD StreamStats Version 3		43.	“Warning: The selected watershed is partly in an area for which flow equations were not defined. Whole-watershed flow estimates have been provided using the regional equations that are available for other parts of the watershed. Weighted flows were not calculated. Users should be careful to evaluate the applicability of the provided estimates.” Questions: Has Transit Mix confirmed that the estimates, are indeed, applicable and appropriate for the canyon? Has Transit Mix discussed the rainfall estimates with the Colorado Division of Water Resources?
Review of Potential Ground and Surface Water Impacts Associated with the Proposed Hitch Rack Ranch Quarry	Page 5	44.	“Earlier in this memo, we acknowledged uncertainty about the possibility of the mine interacting with ground water at distances from the Little Turkey Creek. Specifically, we lack the data to definitively determine that ground water will not be encountered in the southwestern portions of the mining area where mining depths will be as much as approximately 340 feet. Data are not available for us to determine current depths to ground water in these areas. Question: What data would need to be collected to better determine whether ground water would be encountered?
Review of Potential Ground and Surface Water Impacts Associated with the Proposed Hitch Rack Ranch Quarry	Page 5	45.	“ However, there are no water supply wells present in the south half of Section 16, the southeast quarter of Section 17 or all of Sections 20 and 21.” Question: Although there are currently no wells in Section 17, there is vacant land owners by people within Eagles Nest. What happens if wells are drilled in Section 17 in the future? Could they be impacted?

Review of Potential Ground and Surface Water Impacts Associated with the Proposed Hitch Rack Ranch Quarry	Page 6	46.	“Nevertheless, we recommend the installation of two monitoring wells before mining begins to quantify and confirm that ground water level changes are not occurring in water supply wells west and east of the proposed mine. Question: Does the Transmitt Mix plan to follow this recommendation and drill these monitoring wells?
Review of Potential Ground and Surface Water Impacts Associated with the Proposed Hitch Rack Ranch Quarry	Page 6	47.	“The monitoring wells will act as an early warning system that will identify any changes in water level associated with the operation of the quarry to the extent that ground water is encountered in the mine area. The monitoring wells will also provide data that may be used by Transit Mix to confirm water level conditions in the event a neighboring well owner claims the operation of the mine has detrimentally impacted water levels in their well.” Question: If the western monitoring well does not tap the same rock fracture as wells located above the quarry, how would that monitoring well effectively determine whether wells have been impacted?
Review of Potential Ground and Surface Water Impacts Associated with the Proposed Hitch Rack Ranch Quarry	Page 7	48.	“The local aquifer and stream system will not be developed for water supply purposes.” Question: This appears to contradict an earlier statement in the application that states that Transit Mix <i>may</i> use Hitch Rack Ranch water or <i>may</i> drill wells. Which is correct?
Review of Potential Ground and Surface Water Impacts Associated with the Proposed Hitch Rack Ranch Quarry	Figure 3 Well Water Location Map	49.	Question: Not all Eagles Nest wells were included, including one that is probably the closest to the proposed quarry operations area. What process was used to identify and select wells for this map?
Wildlife Exhibit	H-2	50.	“Turkeys are common on the lower part of the property year round, and the lower eastern part of the permit area is within turkey winter range, winter concentration area, and production area. Turkeys mostly use the lower parts of the Ranch and are not common in the mining area.” Question: What research or investigation was used as the basis for this statement? Eagles Nest property

			owners who regularly drive on Little Turkey Creek Road within the proposed quarry area FREQUENTLY see turkeys within this area.
Exhibit L Reclamation Costs	L-6	51.	Table L-1 indicates costs to move 86,644 bcy of topsoil. Table D-2 shows that 316,816 bcy of topsoil is planned to be removed over the life of the quarry. Question: Why is there such a large difference in the amount of topsoil removed versus the amount being replaced during reclamation?
Exhibit L Reclamation Costs	L-6	52.	Table L-1 indicates costs to revegetate 107 acres. Question: Table D-2 shows an area of almost 393 acres that will be mined. Why is there such a large difference in the acres mined versus the acres revegetated?
Exhibit L Reclamation Costs	L-6	53.	Table L-1 indicates hauling "One-mile, downhill, one-way haul distance". Question: Does this "downhill" haul of 35 ton haul trucks adequately account for delivering material up to the terraces within the quarry pits?
Exhibit S		54.	"The only man-made structures are utility lines along Highway 115 near the entrance to the property on the east end of the permit boundary. There are no permanent man-made structures within 200-feet of the permit area other than the Hitch Rack Ranch Quarry itself." Question: The Mining Rules and Regulations define Permanent Structure to include " <u>Maintained and public roads</u> ". Little Turkey Creek Road is a private road, but it IS maintained by owners within Eagles Nest. The road will traverse right through the middle of the quarry operations area. Why was the road not mentioned as a permanent structure within 200 feet of the quarry operations? Why was no attempt made by Transit Mix to discuss possible damage to the road by quarry operations (such as blasting and rockslides).
Exhibit T Emergency Action Plan	T-14	55.	SEVERE WEATHER AND NATURAL DISASTERS. The emergency plan provides steps to take for a hurricane (which seems rather unlikely in the area of the quarry), but does NOT include plans for a wildfire – which seems <i>much</i> more likely. (The plan does include structure fires.) Questions: Why is there no emergency plan for a wildfire? The FAQ on the Transit Mix web site indicates that Transit Mix employees will be trained to be wildland firefighters. Where is this mentioned in the application?
Exhibit T Emergency Action Plan	T-14	56.	SEVERE WEATHER AND NATURAL DISASTERS Question: Why is there no mention in the emergency plan of the situation where the sediment ponds overflow during heavy rain events, as required by RULE 8 in the Mining Rules and Regulations?
Hitch Rack Ranch Pit Wall Geotechnical Assessment – Rev. B / 591-4	17	57.	"Instrumented groundwater monitoring holes should be considered behind highwalls where natural topography continues above the pit crest (i.e., where there is potential to develop pore pressures higher than a simple saturated slope; although this is considered unlikely in a blocky rock mass). Proposed pit development for the area north of Little Turkey Creek indicates four (4) potential locations for installations. Question: The wording says "SHOULD BE CONSIDERED". Does Transit Mix, in fact, plan to include these groundwater monitoring holes?
Hitch Rack Ranch	P 17	58.	"Controlled blasting practices should be utilized in order to minimize damage to the final

Pit Wall Geotechnical Assessment – Rev. B / 591-4			walls.” Question: This only mentions minimizing damage to final walls of the quarry; no mention is made of impacts to off-site locations (such as property within Eagles Nest or Little Turkey Creek Road). What measures will be taken to assure that there is no impact to off-site locations?
Hitch Rack Ranch Pit Wall Geotechnical Assessment – Rev. B / 591-4	P 17	59.	“Pit slope movement monitoring should be conducted at routine time intervals with EDM/Prism surveying, laser scanning, and/or extensometers. It is recommended that the movement monitoring plan be developed during initial mining as it will be influenced by wall performance. The plan should be implemented as final highwalls start to be developed.” Question: Wording says “SHOULD BE CONSIDERED”. Does Transit Mix, in fact, plan to perform these monitoring tasks?
Hitch Rack Ranch Pit Wall Geotechnical Assessment – Rev. B / 591-4 Appendix G, Bench L-R and Rock Fall results	Figure G.2	60.	Figure shows the proposed design for catch berms. As designed, these will catch 99% of the rocks that fall. Question: Given that 1% of the rocks will NOT be caught by the berms, what protection will be added to ensure that rocks do not fall or roll onto the Little Turkey Creek Road at the base of the quarry pits?



STATE OF
COLORADO

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

Sending the CORRECT copy of my letter with attached list of questions

1 message

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

Wed, Apr 13, 2016 at 9:33 AM

Amy:

I discovered that I sent you the WRONG file yesterday containing my second letter, which included a list of questions about the application. Here is the correct file.

Nancy Reed

Eagles Nest Association

Letter with Questions and Attached list.pdf
1541K