

#E1-1726
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October 6, 2005

Ms. Rini Ghosh
Section of Environmental Analysis
Surface Transportation Board
ATTN: STB Finance Docket No. 34284
1925 K Street, NW
Washington, DC 20423-0001

VIA EMAIL
& Regular Mail

RE: STB Finance Docket No. 34284 -- Adequate analysis under NEPA for:

- (1) Vulcan Materials Company's planned Medina County stone quarry; and
- (2) Vulcan Materials Company subsidiary Southwest Gulf Railroad Company's proposed rail line to serve Medina County stone quarry.

Dear Ms. Ghosh:

MCEAA has reviewed the recent submission, EI-1664, by the applicant, Vulcan/SGR ("Vulcan"), dated September 7, 2005. That letter purports to respond to numerous information requests and questions posed by the agency to the applicant, which the applicant had not responded to, despite the issuance of a Draft Environmental Impact Statement in this proceeding some 10 months ago.

Unfortunately the applicant's September 7 letter continues to ignore and trivialize the cumulative impacts from its connected quarry and rail proposals. Rather than conduct the necessary quantitative studies, the applicant continues to rely on hand-waving, promises, and conclusory statements. In our view, the applicant continues to mislead the agency in order to avoid these studies and to avoid viable alternative routes suggested by MCEAA.

I. THE AGENCY HAS YET TO IDENTIFY A CONSISTENT SET OF CRITERIA FOR ALTERNATIVES

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Several potentially viable alternative routes have been presented to the agency throughout this proceeding. However, a major problem with the alternatives analysis to date has been a lack of consistent standards and comparisons as to what makes an alternative viable. MCEAA has attempted on several occasions to match the applicant's stated qualitative and quantitative criteria, only to have the applicant make up additional "modified" straw men alternatives, closely analogous to MCEAA's but containing serious deficiencies, hence the "modifications". The applicant then analogizes its "modified" alternatives to our proposals, in lieu of actual analysis.

The "analogize instead of analyze" strategy leads to the arbitrary selection of criteria for viable alternatives. Up until the agency's recent information requests, the agency appeared to be proceeding on the basis of an undefined totality of the circumstances approach. The facts and record, however, show that criteria the agency permits for some of the alternatives currently under consideration have been used to dismiss other alternatives. This indicates that some of the allegedly disqualifying factors are simply environmental impacts. These impacts are greater for some alternatives and less for others. But the fact that these impacts are common, at some level, to all alternatives, does not render a particular alternative infeasible unless a threshold of infeasibility is defined.

So far, the threshold of infeasibility has been defined as whatever the applicant wants it to be. This makes the alternatives analysis a sham, and shows all of the alternatives suggested by the applicant to be straw men, rather than any more or less viable than alternatives suggested by the public.

To remedy this, we clearly isolate the feasibility criteria from other criteria that simply represent impacts. We then catalog and state Vulcan's representation of those criteria to date. Finally, we show that both of the alternatives suggested by the public can meet the feasibility criteria.

FEASIBILITY CRITERIA

1. Grades

In North America, gradient is expressed in terms of the number of feet of rise per 100 feet of horizontal distance. Two examples: if a track rises 1 foot over a distance of 100 feet, the gradient is said to be "1 percent;" a rise of 2 and-a-half feet would be a grade of "2.5 percent."

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According to Vulcan, grades must be limited to 1.0% for this project.¹ Therefore, any required cutting and filling to even out the grade should theoretically result in a 1.0% grade, and no less. No extra cutting and filling should occur to decrease the grade below 1.0%, by that standard.

We disagree, however, that a 1.0% grade is the appropriate grade for this project, based on the applicant's own representations:

Earthwork costs can be reduced if [Union Pacific (UP)]-Vulcan agreements allow for run through power to be used on the rail line or that no interchange will occur at the UP main line connection. This will allow for increasing grades to match UP's ruling grade between Dunlay and the aggregate outlet *and eliminating the flat spot near the connection.*²

This [1.0%] grade is somewhat less than ruling grades on the UP between Dunlay and Houston (1.2-1.4%). Consequently, if run through power is used between the loading facility and destination points, tonnage ratings will be governed by the grades on the UP rather than those of the proposed rail line.³

Because "Southwest Gulf Railroad," a wholly owned and operated subsidiary of the Vulcan Materials aggregate corporation, is not a true railroad, and because neither it nor its parent owns and operates long-haul rail equipment of its own, nor plans to purchase or operate such equipment for this project, and because "Southwest Gulf Railroad's" assertions to the contrary consist solely of bare assertions, hypotheticals, and indeterminate possibilities of acquiring its own locomotive power, MCEAA believes that the agency must assume the use of run through power, absent a firm commitment by the applicant to provide its own. In Vulcan's own words, responding to the agency:

How would SGR connect to and move trains to and from the UP line? These details will be worked out with the Class I railroads in the future.⁴

MCEAA also notes that, as presently designed, there is no way to interchange locomotive power where the proposed line intersects the UP main line, without bringing the "5,200 to 5,800

¹ EI-28.pdf at 9. Page numbers cited are the page of the pdf file, and may not necessarily correspond to paper page numbers.

² EI-28.pdf at 11 (emphasis added).

³ EI-28.pdf at 10.

⁴ EI-1664.pdf at 13.

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foot”⁵ “Southwest Gulf Railroad” train to a complete stop, blocking and conducting reverse movements over the UP main line. Realistically, a siding, which is not yet part of the proposal, would be required, either along the UP main line or along the line serving the quarry.

In terms of feasibility criteria, a 1.2 to 1.4% grade, with corresponding cuts and fills, is all that is required for feasible alternative alignments in this project.

Vulcan also raises the issue of slope in the area of the UP main line as a safety issue. However, as noted above, Vulcan’s own consultants note that the flat spot in that area could be eliminated with run through power. Additionally, based on all deviations of alternatives proposed to date, and discussed later in this letter, at least 4,000-5,000 feet of flat track exist, along what is currently the start of Vulcan’s Proposed Route, before any alternative would take off to the east and begin to ascend a marginal grade. This is more than enough track to allay any alleged safety concerns.

Finally, and most fittingly, if Vulcan does not plan to use pass through power, all “Southwest Gulf Railroad” trains will be stopping on the line or at a siding before or after reaching the UP main line. No “safety issue” based on potential grades, the precise contours of which Vulcan has yet to define, will occur with trains moving so slowly or not at all. In any case, railroads across the nation likely deal with more serious safety issues with heavier trains on steeper grades and interchanges on a daily basis.

Furthermore, certainly any alleged “requirement” to place the siding before the UP main line can only exist if pass through power is not used. Yet as noted above, only the wildest, barest assertion of this paper railroad applicant supports an inference that pass through power will not be used. But regardless of whether pass through power is used, the location of any siding is irrelevant and may not be used as an albatross to dismiss viable alternatives. Both the set of alternatives within the Quihi floodplain and the set of alternatives to the east, as well as the UP main line itself, have ample flat ground within a reasonable distance of the quarry line interchange on which to construct a siding.

The future operational details of this line, which currently seem grounded only in the unsubstantiated assertions of the paper railroad applicant, are not sufficient to eliminate otherwise viable alternatives unless those details are more adequately supported, and made binding on the applicant as a condition of the license.

⁵ EI-28.pdf at 4.

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2. Cut and Fill

Having established a feasible grade of 1.2 to 1.4%, it is now necessary to determine the other factor involved in calculating cut and fill: the resulting slope of the area around the rail line that is cut into or built up. Feasibility of the cut and fill cost will be discussed later. First, we must determine how much cut and fill will occur, before dismissing any possibilities.

In its September 7 letter, Vulcan revised its cut and fill figures in a manner that should raise alarm at the agency. Vulcan stated that:

In its initial presentation of cut/fill data in that [June 6, 2005] letter, SGR had assumed that all excavation would be in rock or a consolidated material capable of supporting vertical benches 10 feet wide by 20 feet high, resulting in a slope calculation of 0.5:1 (the equivalent of a 63° slope). Upon further review of this assumption and discussion with qualified engineers who reviewed surface geological maps of the area, SGR has now concluded that somewhat more refined data on the cut volumes would be generated by assuming side slopes of 1.5:1 (the equivalent of a 33° slope).⁶

The effect of all of this was to dramatically increase the cut volumes for alternatives to the east of the Quihi floodplain, while barely affecting some of the cut volumes for alternatives through the floodplain. Essentially, the change in slope had an exaggerated effect in the marginally steeper topography to the east, because more horizontal cutting would have to be done to achieve a 33 degree slope adjacent to the rail line there than in the marginally flatter floodplain.⁷ Plainly, this was an attempt by the applicant to bias the feasibility analysis.

More seriously, however, Vulcan's own earlier submissions contradict both the necessity and basis for this change. The original slope was not 0.5:1 and 63 degrees after all, but 1:1, or a 45-degree angle. Because of that, there is no basis for requiring a 33-degree slope unless the surrounding material is *extremely* loose and unconsolidated and unable to support itself when balanced evenly at 45-degrees and a 1:1 ratio. Vulcan's own words, in the December 2002 TRAX Report:

⁶ EI-1664.pdf at 2.

⁷ "The differences between the previous and revised cut estimates are greater for the [eastern] alternatives due to the greater depth of the cuts required as one moves east, a reflection of the steeper escarpment that needs to be traversed by the more eastern alignments." EI-1664.pdf at 3.

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Earthwork calculations and the cost estimate assume that all excavation will be in rippable material. This assumption is grounded in site visits, inspection of road cuts in the area and data from University of Texas-Austin maps, but is not backed by soils tests and drillings. Based on this information, road bed side slopes of 1:1 in cuts (with 10 ft. wide benches and 20 ft. height intervals) and 2:1 in fills were used. These side slope assumptions were used to determine of [sic] right of way width throughout the length of the line.⁸

In cuts, ditches 10 ft. wide and 2 ft. deep (below top of subgrade) have been assumed on both sides of the track. Assumed side slopes were as noted in the previous paragraph [1:1].⁹

Cuts are in material that can be excavated without blasting and will stand at a 1:1 slope.¹⁰

Vulcan first provided cut volumes based on 1:1 slopes to the agency in Exhibit 4 of EI-1439, on April 4, 2005. These volumes are repeated in Exhibit 1 of the September 7 letter. We know these volumes are based on 1:1 slopes, rather than 0.5:1 slopes, because Vulcan said:

The following process was used to calculate the cuts and fill volumes:

- (3) The criteria outlined in the December 2002 TRAX Report [EI-28.pdf] previously provided to SEA were taken into account for
- Grade Limitations
 - Curve Limitations
 - Cut and Fill Profiles¹¹

Further, Vulcan's stated basis for the change to a 1.5:1 ratio was "discussion with qualified engineers who reviewed surface geological maps of the area."¹² Yet according to Vulcan's earlier submission, they had already reviewed "data from University of Texas-Austin maps" and the only basis for a change in slope ratio would be "soils tests and drillings."¹³ Vulcan has not conducted soils tests and drillings, nor submitted any evidence to the agency to

⁸ EI-28.pdf at 11.

⁹ *Id.*

¹⁰ *Id.*

¹¹ EI-1439.pdf at 6.

¹² EI-1664.pdf at 2.

¹³ EI-28.pdf at 11.

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support its changed slope ratio and cut volumes. No engineer has signed or certified the numbers Vulcan now urges upon the agency in Exhibit 1 of the September 7 letter.

Because there is only one purpose for the Vulcan's unsupported change in the slope ratio—the inflation of cut volumes for alternatives east of the Quihi floodplain—it must be discarded in the absence of supporting data and professional opinion. A bare assertion that the lawyers talked to the engineers is not enough.

The original 1:1 slope cut volumes, which Vulcan (deliberately) misrepresents as 0.5:1 volumes in Exhibit 1 of the September 7 letter, may apply, to the extent they are relevant. However, as we discuss further below, numerous sections of viable alternatives have not been analyzed. Therefore, attempts to analogize the cut volumes of close-by routes traversing different topography, in lieu of analyzing the specific viable alternative presented, are irrelevant.

3. Operating Speed

Vulcan's prior submission and its response to the agency in the September 7 letter confirm that operating speed is not a major factor in the design of feasible alternatives.

Track geometry will allow 40-mph maximum speed operations; however, 25-mph will meet the needs of the quarry for the foreseeable future and operating at this speed will lower track maintenance costs. Speeds while climbing the steepest grades will be as low as 12 mph.¹⁴

These speeds "obtained while climbing the 1 percent ruling grade near station 80+00 [of the applicant's Proposed Route] could [be] *[sic]* as low as 12 mph with 9000 horsepower. This will not introduce delays since speeds will be reduced as the loaded train prepares to enter the [Union Pacific] main [line] causing no practical impact on running time."¹⁵

The agency wisely asks Vulcan why, if 12 mph operating speeds are feasible for its Proposed Route, 25 mph speeds are assumed for curves. Vulcan's answer, "[t]he track design is based on safety considerations. . . . The speed to be used on curves will vary based on the degree of curvature and grade considerations,"¹⁶ is pathetic.

¹⁴ EI-28.pdf at 4–5.

¹⁵ EI-28.pdf at 8.

¹⁶ EI-1664.pdf at 12–13.

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The fact is, speeds of below 25 mph will occur near the quarry,¹⁷ on certain grades, and near the interchange with the UP main line at Dunlay. In fact, as noted above, depending on whether run through power is used or not, the trains may actually stop near the interchange. Therefore, operating speed is, at best, a negligible consideration in determining whether an alternative is feasible.

4. Curves

Vulcan has stated that “[c]urves exceeding 4° 00’ have been limited to the ends of the line only, where speeds will be relatively low.”¹⁸ All of the curves greater than 4° 00’ shown in the TRAX route description have maximum operating speeds of at least 25 mph.¹⁹ It is unknown what maximum speeds would correspond to sharper curves.

In any case, no alternative or deviation described by MCEAA later in this letter will require more than a 4° 00’ curve, and it is believed that even that curve, near the origin, can be eliminated by selecting a different, less steep deviation just to the north.

Therefore, while a maximum curve sharpness remains undefined in this proceeding, MCEAA believes that whatever that value is, it will not interfere with the feasibility of the alternatives it offers. Still, the agency should align curve criteria with known conditions; for instance, expectations, rather than bare assertions, of what will occur near the interchange.

5. Length

Length is relevant as a feasibility criteria due to its relationship to cost, which is discussed below. It should be considered independently and not lumped together in conjectural assumptions like “a longer line means more cut and fill.” The longest of the four alternatives drafted by Vulcan is Alternative 1, at 10.6 miles. Potentially viable alternatives submitted by the public are between approximately 10 and 12 miles long.

¹⁷ Exiting the quarry, Vulcan “does not anticipate that the speed of the trains at this point [at CR 353] will exceed 10 mph.” EI-1664.pdf at 13.

¹⁸ EI-28.pdf at 10.

¹⁹ *Id.*

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6. Total Cost

The major factors in total cost, based on the TRAX report, are earthwork (cut and fill), track (length), and structures (bridges, berms, ditches, culverts, and flood mitigation).²⁰

The latter factor, the level of structural engineering necessary to avoid cumulative flood impacts from the rail line and quarry, has been hotly contested in this proceeding. Vulcan's cost estimate states that "sizing of bridges and culverts is based on a flood frequency of 25 years."²¹ For a number of reasons, including the reality of cumulative flood impacts in this proceeding, as well as a Medina County Floodplain Ordinance prohibiting the enlargement of the 100-year floodplain, a 25-year structural flood mitigation plan is irrelevant.

Further, Vulcan admits that it has still not even designed, much less analyzed, stream crossing and drainage structures and their impacts on the floodplain. Nor have the cumulative flood impacts, which may require additional mitigation by the rail line, been analyzed. Therefore, consideration of the cost of stream crossing and drainage structures when analyzing the feasibility of alternative alignments is highly premature and arbitrary, at least as the record stands in this proceeding.

This leaves cut and fill volume and length. It is true that some routes may have greater cut and fill requirements and travel marginally longer distances than others. This alone does not make them infeasible. Also, as we discuss further below, numerous sections of viable alternatives have not even been analyzed. It will not do to simply analogize their very different facts, particularly topography, to straw men alternatives created by the applicant.

Even though it is possible to extrapolate from the cost data that has been provided to date, it is not permissible for the applicant to set a secret cost threshold. If the applicant or agency wants to use total cost as a basis for deeming an alternative infeasible, it needs to state exactly what part of the total cost is excessive, and by how much. We are not convinced that a few million dollars really matters to Vulcan, given that it has been planning the quarry since 1999, and since it has waited more than ten months past the Draft Environmental Impact Statement to provide the most rudimentary evidence that would even begin to make a feasibility analysis of alternatives possible.²²

²⁰ EI-28.pdf at 14.

²¹ EI-28.pdf at 10.

²² EI-1664.pdf and its exhibits are the first time that detailed topographic profiles, cross sections, and aerial photos of *all* of the applicant's alternatives have been provided to the public.

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IMPACTS

The fact that an alternative has more or less of a certain environmental impact does not render it infeasible. This particularly true when that impact is shared by the other alternatives the agency has already accepted for further analysis.

In this section, we address the impacts cited by Vulcan as justification for why its own alternatives east of the Quihi floodplain are infeasible. The agency may wish to compare the public's alternatives and deviations outlined later in this letter, at some point, but it is extremely doubtful these impacts are significantly great to render them infeasible.

In most cases, while these impacts can be quantified, their enumeration really doesn't tell us much without further analysis. Does it really tell the agency anything if one alternative crosses 8 properties and another crosses 12? If one alternative has 5 stream crossings and another has 7? These are not criteria of feasibility for a rail line, particularly not if the applicant plans to condemn the necessary land and still hasn't engineered or analyzed a way to resolve flood impacts along the route. Rather, these numbers denote impacts of otherwise viable routes that require further analysis to determine which is most preferable.

1. Significant Stream Crossing and Drainage Features

According to Vulcan, the Proposed Route will require seven significant stream crossings and drainage features,²³ while Alternatives 1 and 2 will require eight, and Alternative 3 will require four.²⁴ Any route to the east would appear to require only 3 stream crossings.

2. Crossing Roads and Driveways

According to Vulcan, the Proposed Route will require six to seven road crossings, while Alternative 1 will require eight, Alternative 2 will require five and Alternative 3 will require six.²⁵ Any route to the east would appear to require a similar number of road crossings.

As the agency noted in its information request, the number of private driveways to be crossed, as well as access routes around working properties, are also important environmental impacts. In the past, the agency has denied a license, in part on the basis of impacts to private

²³ EI-284.pdf at 12.

²⁴ EI-287.pdf at 2-4.

²⁵ EI-472.pdf at 1-2.

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residential driveways. At the very least, this is an important safety concern to affected residents that merits full disclosure and mitigation.

3. Crossing Property

Given that Vulcan may attempt to use eminent domain to acquire any land that it cannot purchase, the number of properties crossed by the line is irrelevant without knowledge of which individuals, such as quarry supporters living east of the Quihi floodplain, would willingly sell. Vulcan appears to agree:

In addition, SGR's potential exercise of eminent domain rights, aside from being a highly speculative proposition at this time, is not in SGR's view an appropriate issue for consideration by SEA in its study of the environmental impacts of the SGR line.²⁶

Therefore, Vulcan's attempt to use the number properties crossed as a feasibility criteria, rather than a land use impact, should be ignored.

4. Existing or Proposed Land Uses

Along the applicant's proposed route and first three alternatives, most lands are used for ranching, farming, hunting, and residences. Similar land use exists to the east. Some speculative future land uses, such as subdivisions, also may exist. Each of these land uses bears the risk of being impacted by a rail line alternative and by potential condemnation attempts, however *ultra vires* they may be. It is not possible to elevate any one of these land uses to the level of a disqualifying feasibility criteria. Some land uses on some parcels will be more adversely impacted, and there will be significant debate and comment about that. Crossing more land may impact different land uses, but that is for the impact analysis to discuss. Existing or proposed land use is not a ground, independently or otherwise, for disqualifying an alternative route.

5. Proximity to Historic Sites

Vulcan has defined the "Area of Proposed Effect" on historic sites to extend 1000 feet on each side of the rail line, over its entire route.²⁷ This relation of this area to actual environmental impact is unclear and perhaps inaccurate because several environmental impacts, such as

²⁶ EI-259.pdf at 4.

²⁷ EI-751.pdf at 1-6.

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flooding, have yet to be fully analyzed in this proceeding. Nevertheless, because most of the historic sites lie near the Quihi floodplain, it is unlikely that the impact on historic sites of any route to the east would rise to a disqualifying level.

II. APPLYING CONSISTENT FEASIBILITY CRITERIA TO THE MEDINA DAM ROUTE AND MEDINA DAM ALTERNATIVE

Two pairs of alternatives exist to the east of the Quihi floodplain where the Vulcan's Proposed and three Alternative Routes lie. In each of these pairs of alternatives, the public has offered a proposal. Then, Vulcan has offered a "modified" straw man variation of each proposal, in some ways similar, in some ways different, but always with major infirmities.

As MCEAA has commented and as the agency noted in the Draft Environmental Impact Statement, an eastern route has the potential to lessen environmental impacts, including avoiding the Quihi floodplain, avoiding impacts to historic sites, and impacting fewer working lands currently used for grazing, agriculture, and hunting.

However, the agency has not yet analyzed the public's proposals against a consistent set of feasibility criteria, though it has, perhaps prematurely, dismissed one of them in the Draft Environmental Impact Statement, based not on the actual route proposed by the public, but instead on a straw man route proposed and described by Vulcan.

The public has presented two viable alternative routes to the agency, and Vulcan has presented two "modifications" of those routes. In discussing each of these routes, we begin at the origin, the existing Union Pacific main line at Dunlay, and proceed towards the quarry, responding to Vulcan's "modifications" and stated objections as they arise along the route.

The Medina Dam Route ("Original MDR")

The first alternative submitted by the public is a historic rail right of way. The original Medina Dam Route ("Original MDR")²⁸ dating from the early 1900s carried aggregate to construct the Medina Dam, northeast of the project area. This route was built before U.S. Highway 90, and, in its original configuration, would have required a grade separation over U.S. 90 to reach the existing Union Pacific main line at Dunlay. This factor, no doubt, contributed to

²⁸ MCEAA notes that the Draft Environmental Impact Statement refers to this route as the "Medina Dam Alternative". Due to the number of alternatives and modified alternatives existing at this time, we suggest that the agency adopt the system of references contained in this letter.

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its preliminary disqualification by the agency. However, MCEAA noted the grade separation problem before the agency disqualified the Original MDR, and pointed out how it could be avoided by connecting to the applicant's Proposed Route less than a mile north of its origin.

Vulcan's "modified" Original Medina Dam Route ("Modified MDR") contains such a connection to the Proposed Route. We will now refer to this segment as "Original MDR – Deviation A". With this deviation, the Modified MDR turns due east off the Proposed Route and ascends approximately 60 feet.

In a May 4, 2004 letter to the agency, Vulcan discusses and dismisses Deviation A on the basis of feasibility criteria discussed earlier in this letter. MCEAA believes that when the feasibility criteria are correctly applied, Deviation A passes.

For Deviation A, Vulcan primarily objects that the amount of cut and fill would be too large.²⁹ Topographic maps,³⁰ however, indicate that the grade traversed by Deviations A is not 6-7% as stated by the applicant, but more on the order of 3-5%.³¹ At the crucial cross-section 50+00, we find, upon examining the applicant's cross sections for the Modified MDR contained in Exhibit 6 of the September 7 letter, a grade of between 3 and 4%. In fact, the applicant's Proposed Route traverses similar 3-5% grades between Cherry and Quihi Creek, as cross-section 160+00 for that route illustrates. Based on the profiles provided by the applicant, we find no more cut and fill with Deviation A than exists on other sections of the Proposed Route and Alternative 3.

If a grade of 6-7% does exist, it is a very short one, and could easily be addressed with cut and fill. In fact, Vulcan has analyzed a cut and fill scenario with a 1:1 slope ratio for Deviation A. Therefore, Deviation A is only infeasible if its cut and fill volume, and associated cost, standing alone, would render an alternative infeasible.

²⁹ EI-793.pdf at 14. Vulcan also raises the downward slope towards the UP main line "safety issue" that we discussed earlier in this letter.

³⁰ EI-1664.pdf, Exhibit 4.

³¹ As a general comment, MCEAA notes that throughout this proceeding, it has never seen an engineer or consultant certify or attest to many of the crucial measurements presented as fact in the letters from the applicant. Because TRAX, the rail consulting firm that produced some of the original feasibility criteria, is no longer in business, and because MCEAA has not noticed a replacement for them appearing in the submitted materials, it has raised questions, particularly when we discover inconsistencies like the slope ratio for the cut volumes mentioned earlier in this letter.

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By contrast, MCEAA has submitted a map showing how the Original MDR could easily be linked to the Proposed Route, and thus the origin, through a much more gradual turnoff and a far gentler ascent. We will now refer to this segment as “Original MDR – Deviation B1,” though it was not originally labeled as such. This deviation has not been analyzed to date.

MCEAA’s Deviation B1 is very different from the Deviation B proposed by Vulcan in its May 4, 2004 letter (“Deviation B2”).³² Vulcan’s Deviation B2 takes too long to leave the Proposed Route and Alternative 3 (about 1.5 miles from the origin). This causes it to ascend a much steeper and longer hill than necessary, and to cross nearer to the intersection of CR 4516 and CR 2676 than the Deviation B1 MCEAA submitted.

MCEAA’s Deviation B1 ascends a much gentler grade than either of Vulcan’s Deviations. Therefore, the cut volumes necessary to achieve a 1.2 to 1.4% grade would be much lower. Vulcan also raises the safety issue of crossing CR 4516 “on a gradient,”³³ but any such gradient would be eliminated by the cut and fill. We do not see a 1.2 to 1.4% gradient as being an insurmountable obstacle to feasibility, particularly when Vulcan could take whatever additional grade crossing protections are necessary. Currently, Vulcan proposes only to place warning signals at CR 4516.³⁴ Crossing gates could easily be placed at CR 4516 if the safety issue was that pressing. Further, since crossing gates will likely be required at one other location common to every alternative, CR 2676, their requirement at one additional location would not render an alternative infeasible.

With Vulcan’s objections to the initial portion of the Original MDR answered, we turn east of CR 4516 to one of the Original MDR’s defining features—a level stretch of approximately 5 miles that lies well east of any streams in the Quihi floodplain, crosses only 1 road, certain lands owned by quarry supporters, and passes near very few houses.

Between CR 4516 and the top of this gradually sloping plateau, the Original MDR and Modified MDR are very similar. Any disqualifying infirmity in one could be corrected for by shifting to the other, and the flat topography is conducive to doing so. Major cut and fill need not occur along this stretch.

From the top of the plateau to the quarry, four deviations, C, D, E, and F, exist. Each of them crosses Quihi Creek at some point. Deviations C, D, and E have been proposed by

³² EI-793.pdf at 23.

³³ EI-793.pdf at 14.

³⁴ EI-28.pdf at 4.

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Vulcan,³⁵ and, after crossing Quihi Creek, they generally return to the Proposed Route, join it, and enter the quarry from the south. Deviation F is the name we now give to MCEAA's submitted route from Quihi Creek, which follows the historic Medina Dam Route to the north over flat land for about another 1 to 1.5 miles before turning and approaching the quarry from due east of the loading loop, north of Hill 1009'.³⁶ From Quihi Creek to the quarry, each of these deviations easily satisfies a fairly applied, consistent set of feasibility criteria. It is unlikely that any one of the segments analyzed alone, unconnected to the Original MDR or Modified MDR, is infeasible. However, only one, Deviation D, which Vulcan incorporated into its Modified MDR, has been completely analyzed.

The focus thus returns to the descent from the top of the plateau to Quihi Creek. Vulcan's consistent—and sole—feasibility objection to this segment is the amount of cut and fill required.³⁷

Yet as MCEAA has shown above, the data necessary for a fair feasibility determination remains incomplete: both the grade and the slope ratio used by Vulcan are inaccurate. More realistic alignments are also possible. For its Modified MDR, Vulcan chose the shortest possible route, straight up the grade. The Original MDR takes a more gradual path, as yet unanalyzed, and it seems like an even more gradual grade could be found or created by tracking west of east of the crest of the plateau in this area. While the cost of the project would increase due to the amount of cut and fill necessary in a segment from the plateau to Quihi Creek, it has not been shown that this amount is infeasible to the applicant, a Fortune 500 company. It has merely been asserted in a conclusory statement.

After the grades are leveled, and because, when proper deviations and earthwork are applied, there are no problems with curves, Vulcan's ultimate objections³⁸ to the Original and its own Modified MDR center on length and cut and fill volume, which implicate total cost.

The agency, however, correctly does not cite total cost to the applicant as a justification for deeming the Modified MDR infeasible in the Draft EIS. Rather, it cites only potential environmental impacts to "floodplains, hydrology, soils, and wetlands,"³⁹ even though it is not clear that any of these would necessarily be impacted by the disposal or excavation here. This

³⁵ EI-793.pdf at 23.

³⁶ See EI-1664.pdf, Exhibit 4 (topographic map).

³⁷ Vulcan also insinuates, but has never shown, that a loaded train leaving the quarry would be unable to ascend this segment, despite more than two and a half miles of level acceleration.

³⁸ Draft Environmental Impact Statement at 2-11, 2-12.

³⁹ Draft Environmental Impact Statement at 2-12.

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particular segment lies outside of the floodplain,⁴⁰ traverses non-farm grazing land, and does not include any wetlands. Further, any hydrologic impacts are unknown, because the applicant still refuses to disclose how it will handle both drainage along the rail line and the construction of structures (bridges) within the floodplain.⁴¹ Without further analysis, described in the conclusion to this section, the agency's rejection of the Medina Dam Route is premature.

The Medina Dam Alternative ("MDA")

MCEAA's Medina Dam Alternative ("MDA"), presented several times on detailed topographic maps to the agency, improves on a historic route originally constructed in the early 1900s to build the Medina Dam, to the northeast of the project area. The Medina Dam Alternative presented to the agency links the applicant's point of origin, at Dunlay, to the quarry, in a manner consistent with the applicant's stated rail geometry and other construction requirements. It has numerous advantages relative to the current proposed route, which have been discussed previously. It has not yet been evaluated by the agency alongside the other alternatives in this proceeding.

Vulcan's "SGR Eastern Route," was submitted by the applicant on June 6, 2005, five months after MCEAA submitted topographic maps and comments containing the MDA in response to the Draft Environmental Impact Statement.⁴²

Clearly, it is the agency's responsibility, not the applicant's, to inquire further when the public presents it with a potentially viable alternative. Still, MCEAA was disappointed that, given the opportunity to take its best shot at the MDA, Vulcan chose not to conduct the same level of quantitative investigation as it had for all of the other alternatives. Instead, Vulcan chose only to passively analogize the MDA to the "SGR Eastern Route," without any further discussion of the MDA itself. On that basis alone, Vulcan argued that the MDA, like its own "SGR Eastern Route", should not be considered further.⁴³

This strategy implies that the "SGR Eastern Route" was complete baloney from the beginning. If the "SGR Eastern Route" was so bad, why create it? Why not just analyze the MDA? Presumably, Vulcan's consultant had some reason to choose a more western orientation in the key area where the cut and fill volumes were highest. The problem is that the public is left

⁴⁰ Vulcan explicitly states that cut and fill will only occur outside of the floodplain, with trestle bridges used within the floodplain. EI-1439.pdf at 6.

⁴¹ EI-1664.pdf at 7, 8, 15-16.

⁴² EI-1545.pdf

⁴³ EI-1664.pdf at 1-2.

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to guess what that reason is, while Vulcan asks the public to accept a flawed analogy to the MDA, rather than an analysis of the MDA itself. The basis for deviating from the public's version of the MDA, if not disclosed and explained by the agency, is a ripe litigation target.

Departing from the Proposed Route, the MDA utilizes feasible Deviation B1, discussed with reference to the Original MDR above. One atop the plateau and east of CR 4516, it travels northeast in a corridor with the Modified and Original MDRs and the "SGR Eastern Route". This corridor, properly aligned, should require little to no cut or fill.

Turning north and then northwest, the MDA and "SGR Eastern Route" ultimately split south of a small pond. The MDA slopes down to the east of the outlet creek to this pond, while the "SGR Eastern Route" descends to the west. The MDA takes a more northerly course, meeting the Original MDR at Quihi Creek, and then joining Deviation F of that route, discussed above, traveling north and then turning to enter the quarry from due east. All portions of the MDA from the plateau onward remain unanalyzed.

Conclusion: Reevaluation

The agency needs to rerun the cut and fill calculations using the applicable grade (1.2–1.4%) and slope ratio (1:1) values, or else require the applicant to support the parameters it urges. The agency needs to run these calculations on the Original MDR and MDA as described above. Because the agency did not have much of the information that it has now in front of it when preparing the Draft Environmental Impact Statement, MCEAA requests that it conduct a reevaluation of the Original MDR and the MDA.

MCEAA feels strongly that the ultimate feasibility of the Original MDR and the MDA will come down to two issues that together implicate total cost: length and cut and fill volume. The environmental impact of handling the reduced amounts of cut and fill is likely not significant enough to merit the disqualification of the Original MDR and the MDA as infeasible; but in any case, it has yet to be fully analyzed. Likewise, it is impermissible to layer and sandbag preliminary conclusions from issues properly reserved to the environmental impact analysis in order to disqualify an otherwise viable alternative. Finally, if the applicant must rest on total cost as the ultimate justification for infeasibility, there will likely be two consequences. First, declaring the marginal cost increase infeasible, relative to the most expensive alternative, requires the agency to disclose a basis given the connected nature of the quarry and rail proposals. Second, and regardless of the first consequence, leaving money as the only obstacle to avoiding impacts certainly increases the importance of fully analyzing and mitigating the impacts that will occur along routes traversing the Quihi floodplain.

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III. CUMULATIVE FLOODING AND GROUNDWATER IMPACTS, AMONG OTHERS, REMAIN UNANALYZED

Much of the remainder of Vulcan's September 7 letter is devoted to more promises of resolving issues during "final engineering." For the reasons given in our previous letters and comments, incorporated here by reference,⁴⁴ these promises are not legally adequate.

In particular, Vulcan's response to Request #8 illustrates a failure to provide the agency with necessary information to analyze cumulative flood impacts. Request #8 concerns the location and height of earthen berms along the rail line that will manage runoff.⁴⁵ Vulcan again delayed providing this information and deferred it to "final engineering."⁴⁶

To fully conceptualize what Vulcan proposes at the stream crossings, it is worth summarizing the structures that will exist. First, large barriers of fill supporting the rail line will exist up to the border of the mapped floodplain: 8 feet high near Cherry Creek, 13 feet high at a Cherry Creek tributary and approaching Quihi Creek, an easily overtopped 2 feet at Elm Creek, and remarkably, at grade approaching Polecat Creek.⁴⁷ Then, trestle bridges spanning the entire floodplain between these fill mounds and the fill mound or cut on the opposite bank.⁴⁸ Additional rip-rap material will be placed around the bridges in the floodplain. Berms of indeterminate height and width will be built inside and outside of the floodplain. Ditches and culverts draining alongside the line will feed into the floodplain on either side of the bridges. The bridges themselves will collect debris from upstream. The bridges and the other structures in the floodplain will affect the shape of the floodplain upstream and downstream. Appropriate design (trestle or freestanding), mitigation (upstream detention ponds), and sizing of these structures, and whether they are overtopped or susceptible to damage, depends on the contribution to cumulative floodplain impacts from the quarry.

Yet while Vulcan does provide fill profiles, flawed or otherwise, for individual cross sections along the route, it still has provided none of the information that would enable the agency to analyze the impact of either the rail line's structures or the quarry on the floodplain. In particular, Vulcan has declined to provide necessary information on:

⁴⁴ See e.g., EI-1480, EI-1491.

⁴⁵ EI-1664.pdf at 7.

⁴⁶ *Id.*

⁴⁷ EI-1664.pdf, Exhibit 6 (cross sections).

⁴⁸ EI-1439.pdf at 6.

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- Berms for runoff management (Request #8)
- Location and design of stream crossings (including bridges) and culverts and 100-year floodplain water surface elevations⁴⁹ in the vicinity of the crossings (Request #9)
- Necessary consultation with the Medina County Floodplain Administrator (Request #26)
- Maps and drainage plan for the quarry with specific information about diversion structures (Request #27)

Without this information, the agency cannot analyze the cumulative flood impact of the quarry and rail line. It cannot analyze how the structures that Vulcan plans to place in the floodplain and the excavation it plans at the quarry will impact floodplains up and downstream. It cannot propose mitigation to eliminate or significantly lessen those impacts. It cannot even begin to design the analysis and thresholds necessary to trigger mitigation, because even the most basic information is lacking. Indeed, the only thing the agency can do on this record is trust the applicant to do whatever it wants. That is not an acceptable course of action.

One of Vulcan's promises should be discussed further, however, and that is its reliance on the state WPAP (stormwater) permit to allegedly zero-out flood impacts from the quarry. This should be a major concern to the agency, considering Vulcan only plans to share the WPAP application with the agency when filed, "if that happens during the course of this proceeding."⁵⁰

Even if the agency gets to see the WPAP application, Vulcan cannot rely on it to eliminate flood impacts from the quarry for many reasons.

First, the presence of the state permit does not eliminate the federal agency's NEPA responsibility to investigate. Second and more importantly, the WPAP is a *water quality* permit. It has nothing to do with mitigating peak flows of runoff, particularly the cumulative effect on peak flows downstream of the project site. Third, while the WPAP does address the quality of surface water infiltrating into groundwater, Vulcan misunderstands and misconstrues MCEAA's

⁴⁹ As a universally utilized hydraulic analysis and floodplain mapping output, water surface elevations enable effects of design changes in floodplain structures to be analyzed ahead of time, to create an effective mitigation plan. The U.S. Army Corps of Engineers develops the leading software, freely available over the Internet, for these analyses. <http://www.hec.usace.army.mil/software/software.html>.

⁵⁰ EI-1664.pdf at 18.

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position that the surface-groundwater relationship needs to be analyzed. It is not simply one-way infiltration, and the quality of the water going in. It is also the volume going in at the quarry and the volume exiting, downgradient, during peak rainfall events, that must be analyzed. Finally, as should be obvious now to the agency, the whole problem in this proceeding is the *cumulative* impact that occurs when the floodwaters from the quarry are routed downstream and interact with the berms and trestle bridges, which the WPAP does not address.

The WPAP is not going to come up with a conclusion of “no net downstream impact” to eliminate downstream impacts on peak flow from the quarry. The disturbance associated with creating the largest quarry in the state is fundamentally too great to pass without impact, particularly considering the fact that the applicant plans no on-site retention/detention, and has not even begun “design” to consider how to manage runoff at either its quarry or around its rail line berms and bridges. There is going to be *some* flood impact from the quarry, notwithstanding the applicant’s hand-waving, conclusory statements, and promises, and the question is “how does that impact interact with the berms and trestles that are known to be part of the rail line?” Because Vulcan/SGR refuses to provide adequate information on both impacts at the quarry site and the exact locations and amounts of its cut and fill, the agency is unable to complete its legal obligations on this issue.

The agency is similarly unable to analyze cumulative impacts to groundwater supplies and groundwater quality due to vibration from quarry blasting and the rail line. In the Draft Environmental Impact Statement, the agency hastily concluded, without more, that while sensitive structures such as wells could be impacted by either the rail line or the quarry, they would not be impacted by both.

In response to the agency’s information request, Vulcan reveals, as MCEAA maintained, that it has never determined the location of wells around the quarry.⁵¹ Vulcan also admits, in response to Request #14, that it has not even begun to design best management practices to minimize impacts to groundwater supplies.⁵² It is likely difficult to do so without knowing the location of the supplies themselves. Vulcan’s solution is to again promise resolution of the issue during “final engineering” after the license is issued and after the time has passed for the agency to determine what mitigation may be required and whether such mitigation would prove effective.

⁵¹ EI-1664.pdf at 17.

⁵² EI-1664.pdf at 9.

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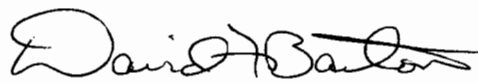
MCEAA REITERATES ITS REQUEST FOR A SUPPLEMENTAL DEIS

We apologize for any delay in response due to our need to obtain the exhibits to Vulcan's September 7 letter, and thank the agency for providing them. It is unfortunate that Vulcan has not been a more cooperative, forthright applicant, towards the Quihi community and towards the agency. It was not necessary to create straw men alternatives when the alternatives that MCEAA submitted could have been analyzed. It was not necessary to select slope criteria that distorted the alternative feasibility analysis. And clearly, the necessary hydrologic and groundwater studies could have been completed by now.

The obligations of environmental disclosure under NEPA are, in the first instance, the agency's. As the record stands, it is the agency's obligation to require the production of this information in a Supplemental Draft Environmental Impact Statement. MCEAA hereby reiterates its request, made first in its DEIS comments, for an SDEIS document.

Very truly yours,

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David F. Barton

DFB:ncf
dfb1/8675.001/l-stb-September05_ThirdSuppDEIS_rev

cc: U.S. Congressman Henry Bonilla
Senator John Cornyn
Senator Kay Bailey Hutchison
Texas Agriculture Commissioner Susan Combs
Texas Senator Frank Madla
Texas Representative Tracy King
County Judge James Barden
County Commissioner, Pct. 1, Chris Mitchell
County Floodplain Administrator Pat Brawner
Texas Historical Commission Executive Director Larry Oaks