Appendix B

Relevant Correspondent

Additional environmental correspondence for this proceeding is available on the board's website at www.stb.dot.gov, by selecting "Environmental Matters," then clicking on "Environmental Correspondence" and then searching the correspondence under "FD 34284."

Appendix B-1

Information Submitted by SGR/Requested by SEA from SGR

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Information Submitted by SGR/Requested by SEA from SGR

#EO-198
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SURFACE TRANSPORTATION BOARD

Washington, DC 20423

Office of Economics, Environmental Analysis, and Administration

February 15, 2005

Mr. David Coburn, Esq.
Steptoe & Johnson, LLP
1330 Connecticut Avenue, NW
Washington, DC 20036-1795

Re: STB Finance Docket 34284, Southwest Gulf Railroad Company Construction and Operation Exemption – Medina County, TX – **Request for Information**

Dear Mr. Coburn:

The Surface Transportation Board's Section of Environmental Analysis (SEA) is currently reviewing the comment letters received on the Draft Environmental Impact Statement (EIS) for Southwest Gulf Railroad Company's (SGR) proposed rail line construction and operation, issued on November 5, 2004. We are writing to request information from SGR regarding certain issues that have been raised in the comment letters. We will likely submit additional requests for information to SGR as we continue our review of the comments.

Please provide the information requested below. If any of the requested information is unavailable, please provide an explanation in your response.

1. Alternative Rail Routes: SGR has provided information stating that initially a total of fifteen potential rail routes between Vulcan Construction Materials, LP's (VCM) proposed quarry and the Union Pacific Railroad Company (UP) rail line had been identified. These fifteen routes consisted of eight different potential routes and seven minor variations from some of these eight routes. After assessing the fifteen route variations using certain criteria, SGR determined that four routes warranted further evaluation, and that 11 should be eliminated.

   Please provide a map delineating all fifteen identified rail routes and information specifying the reasons for eliminating eleven of these potential routes from further evaluation. We request that the reasons for elimination be specified separately for each of the eleven routes.

Commenters have suggested that reasonable and feasible alternative rail routes, other than those studied in the Draft EIS, exist and should be developed, particularly alternative routes that bypass the Quihi, Texas area. Please provide information as to whether SGR has studied the feasibility of rail routes that are farther to the west or farther to the east of the four alignments studied in the Draft EIS (if not included in the discussion of the eleven routes eliminated from further consideration requested above). If so, please provide as much information as possible regarding these routes, such as detailed maps, engineering requirements, and any environmental considerations.

2. Cut and Fill: SGR had previously indicated that final cut and fill volumes of the potential rail alignments had not been determined. If the cut and fill volumes have now been determined, please provide SEA with this information for all alternative rail routes for which this information is available, including those SGR eliminated from further evaluation. If SGR has determined the cut and fill volumes that would be required for an alignment or alignments that would utilize portions of the Medina Dam route, please provide this information as well.

3. Road upgrades: Commenters have challenged the feasibility of using trucks to transport limestone from VCM's quarry to the UP rail line, assessed as part of the no-action alternative in the Draft EIS. In particular, commenters have stated that the current road infrastructure could not support the amount of truck traffic that has been projected and that it would not be possible for VCM to transport the limestone by truck.

   Although SGR has provided some information regarding which roadways would be used by the limestone-hauling trucks, has indicated that VCM may develop a private road, and has stated that VCM would work with Medina County officials on the specifications of any road upgrades, SEA requests that SGR provide more detailed information on any needed road upgrades and the construction of the private roadway. Please provide information on the specifications of the roadway upgrades and the construction of the private road, including the approximate length of construction time, the number of workers involved in the roadway construction, the frequency of maintenance needed, the width requirements for the roadways, and plans to take into consideration stream and floodplain crossings. Are there any approvals for the roadway upgrades that VCM would be required to obtain?

   The Medina County Environmental Action Association has submitted photographs showing that area roadways are subject to flooding that would impede traffic. Please provide information indicating how VCM plans to operate trucks on these roadways during periods of flooding.

4. Location of the Maintenance and Fueling Facility: Several commenters have expressed concern regarding the proximity of the maintenance and fueling facility

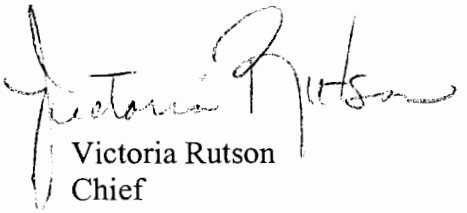
to the Edwards Aquifer Recharge Zone. Please provide a detailed, small-scale map showing the planned location of this facility in relation to the recharge zone.

5. Maintenance Activities: SGR has stated that it would maintain the right-of-way consistent with rail industry standards and the need to minimize fire hazards. Commenters have requested more detailed information regarding maintenance activities. Please provide any additional information regarding maintenance of the right-of-way, including vegetation control, that SGR has developed to date.

6. Fencing: SGR has stated that it intends to use appropriate fencing on both sides of the right-of-way, from the quarry site to the UP line. The Texas Parks and Wildlife Department has requested information regarding the height and mesh size of the fencing. Please provide this information.

We thank you in advance for your cooperation and your response to this information request. If you need additional information or have any questions, please do not hesitate to contact me or Rini Ghosh of my staff at (202)565-1539.

Sincerely,



Victoria Rutson
Chief
Section of Environmental Analysis

#EI-1439
RS

STEPTOE & JOHNSON LLP

ATTORNEYS AT LAW

David H. Coburn
202.429.8063
dcoburn@steptoe.com

1330 Connecticut Avenue, NW
Washington, DC 20036-1795
Tel 202.429.3000
Fax 202.429.3902
steptoe.com

April 4, 2005

VIA HAND DELIVERY

Ms. Victoria Rutson
Chief
Section of Environmental Analysis
Surface Transportation Board
1925 K Street, N.W.
Washington, D.C. 20423

Re: STB Finance Docket No. 34284, Southwest Gulf Railroad Company – Construction and Operation Exemption – Medina County, TX

Dear Ms. Rutson:

This will reply on behalf of Southwest Gulf Railroad Company ("SGR") to the February 15, 2005 letter from your office requesting certain additional information for SEA's consideration in connection with the on-going environmental review of the SGR rail project.

1. **Alternative Rail Routes.** Your letter correctly notes that a total of 15 potential routes for the SGR line were initially considered, with seven of these constituting only minor variations from eight basic alignments that were initially considered. You have asked for maps of all fifteen routes and information specifying the reasons as to why each of the 11 of the 15 eliminated from further consideration was eliminated.

Four of these 15 potential alignments consist of SGR's preferred route, and alternatives 1, 2 and 3 that were reviewed in the Draft Environmental Impact Statement (DEIS) issued by SEA in this proceeding. Maps of four additional alignments that were considered but rejected by SGR are attached in Exhibit 1 to this letter. Maps of the additional seven variations are no longer available. However, the eight alignments for which maps are available (the four alignments under review in this proceeding and the four included as part of Exhibit 1) represent each of the basic alignments that were reviewed by Vulcan (prior to SGR's formation as a separate corporate entity) and its contractor, TRAX Engineering and Associates, Inc. ("TRAX"). Thus, the alignments for which maps are not available would reflect only very minor variations from these eight alignments for which maps have been supplied.

A copy of the TRAX report on the alignments initially considered for this rail project has previously been supplied to SEA and URS under cover of our February 27, 2003 letter, which is set forth in Exhibit G (beginning at page G-18) to the DEIS. Unfortunately, TRAX is no longer in business and we have been unable to contact the person at that firm who handled this matter. Further, neither Vulcan nor SGR have in their files maps of the seven variations of the eight basic alignments.

The reasons that each of the alternatives set forth at Exhibit 1 were eliminated in favor of the Preferred Alternative (and the other three alternatives under consideration) are, as to each alignment, that the alternative would have traversed additional landowner property and/or not met the grade, curvature or other screening criteria (or not met that criteria as efficiently as the alternatives under consideration) described below. The specific screening criteria used by TRAX and Vulcan to assess routes included avoidance of wetlands, topography (avoidance of grades in excess of 1%), avoidance of curves in excess of 4 degrees near the ends of the line and 3 degrees near the central part of the line, limiting the number of properties required to be crossed and minimization of the number of properties that might have to be bisected. The grade and curvature screening criteria are, as described in the TRAX report, consistent with rail industry standards. Apart from the preferred route and the three alternatives under consideration in this proceeding, none of the other routes fully satisfied these screening criteria.

Please note that none of the eight basic alignments that were considered, and accordingly none of the minor variations of those routes that were considered, traverse any further to the east or west of the preferred route than do Alternatives 1 (the most westerly route) or Alternative 3 (the most easterly route). In fact, each of these routes is in the same general area as the preferred route and the three alternatives. While you have also noted that opponents of the SGR rail project have suggested that reasonable and feasible alternatives exist "that bypass the Quihi, Texas area" to the east or west, the fact is that there are no routes farther to the east or west that would be either reasonable or feasible.[1]

Any routes further to the east or west than those studied would effectively require a much more circuitous route (almost a semi-circle) relative to the obviously straighter, and, therefore, shorter and more efficient rail routes that were considered between the quarry and the point on the UP line most advantageous in terms of a connection between the two rail lines. These two end points are essentially fixed -- the quarry cannot be relocated and the point of connection with the UP line chosen by SGR is uniquely advantageous (to both SGR and UP) from an operational viewpoint and because no grade separation needs to be constructed in relation to a major highway, U.S. 90, at that point of connection. As SGR has noted previously, this is at a point in the area where the UP line is north of U.S. 90, meaning that U.S. 90 need not be crossed.

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[1] As there is no town or other entity officially known as Quihi, we assume that you are referring to a cluster of structures, approximately one mile west of where the preferred route would cross Quihi Creek. The impacts of the SGR line on these structures are addressed in the Draft EIS and a Draft Programmatic Agreement has been developed that would further address these properties.

The fixed nature of these end points, and the fact that rail routes for the type of traffic to be transported by the SGR line are limited by grade and curvature considerations, make any type of semi-circular route considerably less efficient from a rail operational and cost viewpoint, as well as from the perspective of SGR's interest in minimizing the number of persons and properties impacted by the line. In that regard, any "bypass" route would, almost by definition, impact the properties of more persons and traverse many more miles, than do any of the other relatively straight routes under consideration. The so-called Medina Dam route, for example, would be at least 11 and possibly 13 miles long, as compared to the approximately 7 mile long route that SGR favors.[2]

Any western "bypass route" would be at least as long as the Medina Dam route, and possibly longer. A longer rail line would be significantly more expensive to build. Conservatively, an eastern or western bypass would cost at least an additional $4-6 million to build, which would severely and adversely impact the economic viability of the SGR rail line. This assumes a conservative figure of $1 million/mile in construction costs, while in fact TRAX has estimated higher costs for construction of the SGR line.[3] Further, a longer line means higher operating (largely, fuel and labor) costs and maintenance costs. Excluding additional capital investment costs, the maintenance expenses for a longer bypass line are estimated by SGR to consist of at least an additional $80,000/year based on the need to hire an additional rail maintenance employee and to operate additional equipment. Further, a longer route would necessarily have more impacts in terms of noise, air quality and safety, among other factors, than would the shorter alignments SGR has proposed. For these reasons alone, no semi-circular "bypass" route warrants serious consideration as the cost/benefit balance suggests that such a route would not be economically feasible or practical.

Nonetheless, recognizing that concerns have been raised about routing the line in the vicinity of certain historic resources in the "Quihi" area, and in view of comments suggesting that a more easterly routing over the so-called Medina Dam route be considered, SGR did study that route. The results of that study were discussed in SGR's May 4, 2004 submission to SEA, set forth beginning at page G-153 of the DEIS. SGR explained in that submission that the Medina Dam route (including certain variations on that route that were considered) would require grades (or alternatively substantial cuts and fills) and curves that are simply not feasible from a rail operational viewpoint. No commenter has shown otherwise. SGR refers SEA to that May 4 submission for more details on the problems with this easterly alternative, as well as to the information described below which indicates that any Medina Dam route

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[2] The length of the Medina Dam route would vary based on the precise course that that route might take. As explained in SGR's May 4, 2004 letter to SEA, deviations from the old Medina Dam rail route would be required at both its south and north ends since the route followed by the old railroad that was used to construct the Medina Dam did not go near the quarry or near the logical and practical point of connection with the UP line.

[3] Based on the cost estimates set forth in Exhibit 2 to the TRAX Report (page G-24 of the DEIS), the cost of a 7 mile SGR line will in fact exceed $11.5 million.

would require a much larger amount of cut and fill relative to the other alternatives under review to avoid the grade problems, and thus be much more environmentally disruptive.

The disqualifying problems with a more westerly "bypass" are equally significant. First, as is evident from the relative disadvantages that SEA has determined exist with respect to Alternative 1 (the most westerly of the alternatives under review), a more westerly orientation would exacerbate impacts on historic resources. The Technical Memorandum prepared by Mr. Daniel Cassedy, and set forth as Appendix I-4 of the Draft EIS, correctly notes that, "In addition to the 18 Germanic-Alsatian structures inventoried near the proposed rail alignments [only 5 of which are proximate to the proposed route], there are many more located to the south and west toward New Fountain and along Quihi Creek."

Mr. Cassedy's conclusion about the numerous historic resources in the New Fountain/Quihi Creek area, which is south and west of the area in which the preferred alignment is located and directly in the path of any westerly alignment of the SGR line, is supported by information supplied to SGR by its cultural resources consultant, Mr. Sergio Iruegas. Mr Iruegas has prepared the attached letter describing the history of the New Fountain area and the map, attached to his letter, showing the number of potential historic resources west of the preferred alignment, including in the New Fountain area. (See Exhibit 2 to this letter). It is apparent from Mr. Iruegas' review of the area, and from his map, that rerouting the SGR line further west of Alignment 1 would create a new set of issues concerning cultural resources impacts.[4]

An equally serious problem with any westerly bypass routing would be the heightened impact of any such routing on floodplains. The point at which the preferred route crosses Quihi Creek, which is the point at which the Creek is at its narrowest, was carefully selected based on stream flows to reduce floodplain impacts. South and west of that point, Quihi Creek joins with Elm Creek and becomes a more robust stream with a wider floodplain. Thus, the DEIS properly notes that Alternative 1, the most westerly of the alternatives under consideration, would cross more total floodplain than the other alternatives and would "cross more streams of higher order (i.e., more main streams), which means it would be more difficult to mitigate an increased potential for flooding by the engineering design of the crossing." DEIS at 4-37.

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[4] The impacts of the preferred route on cultural resources have been studied in the DEIS and would be further addressed in the event that a Programmatic Agreement -- previously negotiated between interested parties in this matter -- were finalized or the terms of that Programmatic Agreement imposed as mitigation. SGR believes that its consideration of several alternative routes has demonstrated a good faith effort in regard to addressing cultural resources. In conformity with the requirements of the Section 106 process, SGR is prepared to work under the terms specified in the PA to identify, assess effects, and mitigate any adverse effects to cultural resources that may be encountered during the course of a more intensive review of resources that may be located along the ultimately approved corridor.

Were the line routed further west of Alternative 1, the floodplain impacts would not diminish. As shown on the map attached to this letter as Exhibit 3, there are significantly more floodplain areas (shown in the light blue lines), and more low-lying areas (shown in blue shade) to the west of the proposed route than in the immediate area of the proposed route or to the east of that area. The floodplain information on this map is drawn from FEMA's Flood Insurance Rate maps, which identify areas of 100 year flood hazard. (Also see page 3-25 of the DEIS, which illustrates the floodplain point addressed here.) In addition, there are larger drainage features west of the current alignment, as is clear from Exhibit 3, as well as Exhibit 5, a satellite photograph of the area. Thus, a westerly bypass would result in surface water impacts that are not present to the same degree with respect to the preferred route, which was designed to cross Quihi Creek at a point designed to minimize impacts. See page 4-37 of the DEIS.

As SEA is well aware, the NEPA requirement that alternatives be considered is subject to a "rule of reason" such that unreasonable or infeasible alternatives need not be addressed. *See National Resources Defense Council, Inc. v. Hodel*, 865 F.2d 288, 294-95 (D.C. Cir. 1988). According to the Supreme Court, "[T]he concept of alternatives [under NEPA] must be bounded by some notion of feasibility." *Vermont Yankee Nuclear Power Corp. v. NRDC*, 435 U.S. 519, 551 (1978). Thus, alternatives that are neither practical nor effective -- which is the case with either a western or eastern bypass around Quihi -- need not be evaluated in depth. *See Airport Neighbors Alliance, Inc. v. U.S.*, 90 F.3d 426 (10th Cir. 1996). Indeed, any alternative that would thwart a primary purpose of the SGR rail project, which is the efficient transportation of aggregate from the Vulcan quarry to the UP line, need not be evaluated. Here, SEA has met its NEPA obligations by considering, in depth, the preferred route, three alternative alignments and a no-action alternative. The above information, as well as information on the Medina Dam route previously supplied, demonstrates that no additional alternatives farther to the east or west of the alternatives under review would meet the purposes of the project. Thus, no other alternatives warrant further consideration.

2. Cut and Fill: In response to your letter, inquiring as to whether SGR has studied cut and fill data for the various routes under consideration, including the Medina Dam route, SGR has recently completed a study to determine cut and fill volumes for each of the alternative routes under consideration, including the preferred alternative. In addition, it has studied the cut and fill volumes that would be associated with the Medina Dam route, as modified in a manner so that it would reach the quarry and connect with the UP line at the planned point of connection.[5] The results are set forth in the spreadsheet attached as Exhibit 4, and discussed further below.[6]

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[5] The calculations were based on the same modifications or deviations to the old Medina Dam railroad route as are described in SGR's May 4, 2004 letter to SEA and as are shown on the maps set forth as Exhibits 3 and 5 to this letter

[6] SGR can supply workpapers underlying the calculations set forth in this Exhibit should SEA or URS wish to review these.

Please note that the figures set forth in Exhibit 4 offer a relatively rough approximation of the cut and fill volumes for the studied routes. Developing more precise information, which will be done in connection with final engineering of the approved route, would consume a substantial amount of time and resources. However, the data developed by SGR provide a sound and reliable basis for comparing the cut/fill impact of one route versus another. The following process was used to calculate the cuts and fill volumes:

1. U.S. Geological Survey Digital Elevation Model data (this data is not final engineering quality data) was used to generate a three dimensional surface of the area between the main line and the quarry.

2. The proposed routes were draped on the surface and the high, low, and average elevation of each route was calculated.

3. The criteria outlined in the December 2002 TRAX Report previously provided to SEA were taken into account for:

    - Grade Limitations
    - Curve Radius Limitations
    - Cut and Fill Profiles

4. The draped line was raised or lowered to hold reasonable grades, and to minimize cuts and fills along the routes in order to create a "route at grade" line.

5. Once that process was completed, a three dimensional surface of the cut and fill profiles was attached to the "route at grade" line.

6. These cut and fill surfaces were used to create solids that represent the areas that had to be cut or filled. The volumes of these solids was computed.

7. U.S. Federal Emergency Agency Flood Insurance Rate Maps based on 100 year flood events were used to delineate where Flood Plains (Class A) exist.

8. Portions of the fill solids that extended into the Flood Plain were removed and the total amount of fill was reduced by that amount. It was assumed for purposes of the calculations that fill generally would not be placed into floodplains and that trestle bridges would be used to cross streams.

The results of this process show that the Medina Dam route (as modified to serve the quarry and to connect with the UP line at the optimal connection point -- see May 4 letter) would entail substantially more cut and fill volumes than the other routes, and thus result in significantly more disruption to the landscape and the environment. As Exhibit 4 indicates, the Medina Dam route would require cutting and filling of a total of approximately 1.7 million cubic yards of dirt, as compared to only

approximately 270,000 cubic yards for the preferred alignment. That result in consistent with the fact that the Medina Dam route would require that an escarpment be traversed, as previously discussed by SGR in its May 4 submission.

In this connection, the satellite photograph of the area showing an overlay of the routes set forth as Exhibit 5 to this letter clearly depicts the substantial elevation changes that would be required for the Medina Dam route versus the preferred and the three alternative routes. The photograph graphically illustrates why the cut and fill volumes for that route are significantly greater than for the routes under consideration. The photograph, and the cut and fill figures, offer further reason why the modified Medina Dam route is not a feasible alternative.

3. Road Upgrades: SEA has asked SGR to provide additional information on any needed road upgrades to demonstrate that area roads could accommodate the type of increased truck traffic that would be required to serve the Vulcan quarry were the SGR line not built. In addition to the information it has previously provided on the highway alternative, SGR can offer the following:

First, Vulcan's primary plan in the event that a railroad were not available would be to use existing public roads, rather than build any new private roads on land that it owns. The trucks that would transport the aggregate would observe applicable weight limits. A private road would be constructed only if, for reasons not now apparent, public roads could not feasibly be used.

Second, Vulcan recognizes, and has acknowledged, that some upgrades likely would be needed to the area's public roads. The precise upgrades that would be required have not been studied in depth as Vulcan assumes that the SGR line will in fact be available. At such time as it may become necessary to address the upgrades in specific detail, Vulcan would work with state and county officials to discuss the upgrades that would be required. Vulcan has undertaken similar efforts in other parts of Texas and other states and sees no impediments to coordinating with public highway officials on roadway improvement issues. Vulcan is not aware of any formal permits that would be required for road upgrades.

Third, with respect to road flooding concerns, SGR notes that the Medina County area receives on average only about 28 inches of rain per year.[7] (For comparison purposes, the Washington, DC area receives on average over 39 inches/year, according to NOAA records.) To the extent that it does rain heavily on occasion, it is certainly possible that some roadways in Medina County may temporarily flood. The critical point to note here is that any such flooding is temporary; Medina County roads are not flooded for more than several hours at any time and only following an unusually heavy rain. The simple answer to the flooding concern that has been raised, which has been vastly exaggerated by quarry opponents, is that whatever flooding occurs ends quickly, allowing roads to be reused. Thus, the impact of any such flooding (which, again, is a relatively infrequent event) would be no more than a very short-

[7] See Handbook of Texas Online at www.tsha.utexas.edu/handbook/online/articles/print/MM/hcm10.html

term cessation of the trucking operation, a situation that Vulcan would not expect to happen more than a handful of times during the course of a year. Moreover, any temporary cessation of truck service would not likely disrupt continued operations since Vulcan anticipates that it will retain an inventory of aggregate at the remote rail loading facility.

Fourth, with respect to information about any private road that might be constructed, see the diagram set forth as Exhibit 6, which provides much of the information requested. In addition, Vulcan offers the following information:

The private road that could be constructed by Vulcan, were that necessary, would be approximately 1.5 to 1.75 miles long,[8] linking CR 353 to CR 365, and intersecting FM 2676 (as shown on the map attached to SGR's May 4 submission and reprinted at page G-169 of the DEIS). Vulcan estimates that this road could be built in about 7 weeks by an approximately 15 person crew. The private road would be a two lane road, one lane in each direction. Each travel lane would be 12 feet wide, and there would be shoulders on each side that would be 8 feet wide. As to crossing drainage features or floodplains, Vulcan does not believe that the short private road that it has described would cross any major drainage features. To the extent that any floodplains would be crossed, Vulcan would consult, as appropriate, with the Corps of Engineers and the Medina County Floodplain Administrator to ensure that such crossing was properly designed. Concerning frequency of maintenance, Vulcan would schedule routine maintenance to fix small potholes and cracks on an ongoing basis. A resurfacing (chip and seal) would likely be required every three to five years and a surface overlay every eight to nine years. Weather conditions, notably the amount of rain, would play a major role impacting the frequency of this schedule.[9]

As to permits for any private road, Vulcan would need to coordinate with Texas DOT with respect to the intersection between FM 2676 and the private road. Texas DOT has a permitting process set forth in regulations governing the construction of access connections, including so-called private driveways, intersecting with state highways. Vulcan is advised that these regulations would apply to private roads intersecting with state highways as well. The Texas DOT manual entitled, "Regulations for Access Driveways to State Highways," sets forth the applicable regulations and may be located via a link at http://www.dot.state.tx.us/mnt/default.htm.

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[8] The estimates provided here assume that the private road would be 1.75 miles long, but these estimates would not change in any meaningful way were the road 1.5 miles long.

[9] Were Vulcan to build another private road into the remote railcar loading facility, instead of locating that facility at a point directly accessible to CR 4516 (see May 4 letter at p. G-155 of DEIS), the same roadway and maintenance standards would apply to such a private road. Any such road would be shorter than the road described above. The construction estimates with respect to such a road would be commensurately lower in terms of manpower and length of construction time than the estimates set forth above. More precise information cannot be offered at this time since the exact location of the remote railcar loading facility, should such a facility be needed, has not been determined.

Vulcan understands that it would also need to coordinate with County officials concerning the intersection between the private road and CR 365. Whether any additional permits might be required with respect to the private road is a matter that would be reviewed in greater detail if and when necessary, but Vulcan is not currently aware of other permits that might be required.

4. **Location of the Maintenance and Fueling Facility:** A detailed, small scale map showing the location of the fueling/maintenance facility relative to the recharge zone is attached as Exhibit 7. As the map shows, the facility would not be located over the recharge zone.

5. **Maintenance Activities:** SGR would maintain the right of way consistent with the Manual for Railway Engineering issued by the American Railway Engineering and Maintenance of Way Association (AREMA), which is a standard industry guide to these matters. This is a large and detailed manual that addresses all relevant issues concerning the maintenance of track, roadbed, ties, bridges and other structures. The AREMA Manual also addresses control of vegetation. An excerpt from the portion of the Manual on vegetation control is attached as Exhibit 8, which also includes the table of contents for the entire Manual.

6. **Fencing:** Your letter notes that the Texas Parks and Wildlife Department (TPWD) has requested information regarding the height and mesh size of the fencing that SGR proposes to use on both sides of its right of way. Subsequent to your letter, Mr. Tom Ransdell of SGR spoke with Mr. Russell Hooten of TPWD about this matter and the results of that discussion are reflected in Mr. Hooten's March 2, 2005 letter to SEA, attached hereto as Exhibit 9. SGR intends to adhere to Mr. Hooten's updated views with respect to fence a least 4 feet high and with respect to mesh (fine, so that small animals will not be able to access the tracks). Further, SGR will incorporate wildlife crossings along the track at bridges and culverts, as also recommended by Mr. Hooten.

We would be pleased to respond to any questions that you might have concerning the above.

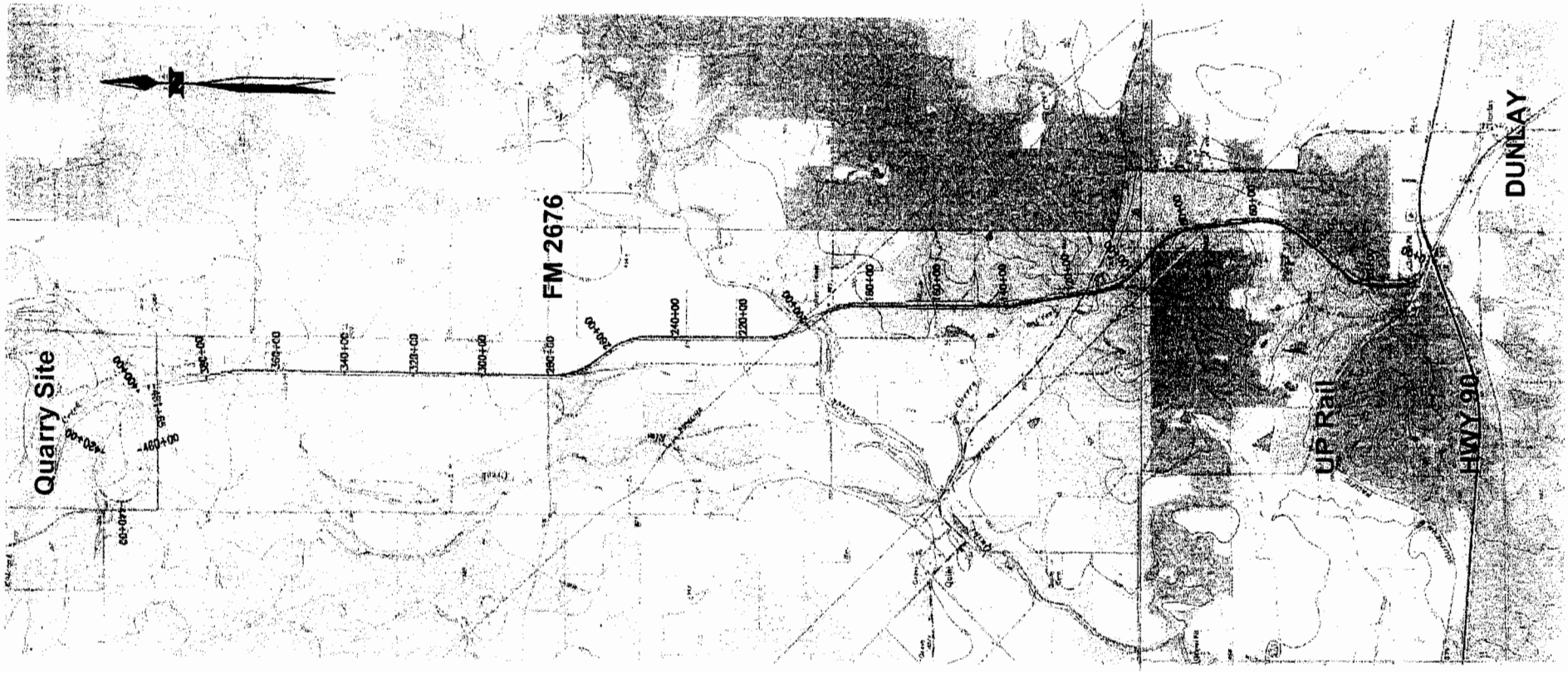
Respectfully,

David H. Coburn
Attorney for Southwest Gulf Railroad Company

cc: Ms. Rini Ghosh
Ms. Jaya Zyman-Ponebshek

EXHIBIT 1

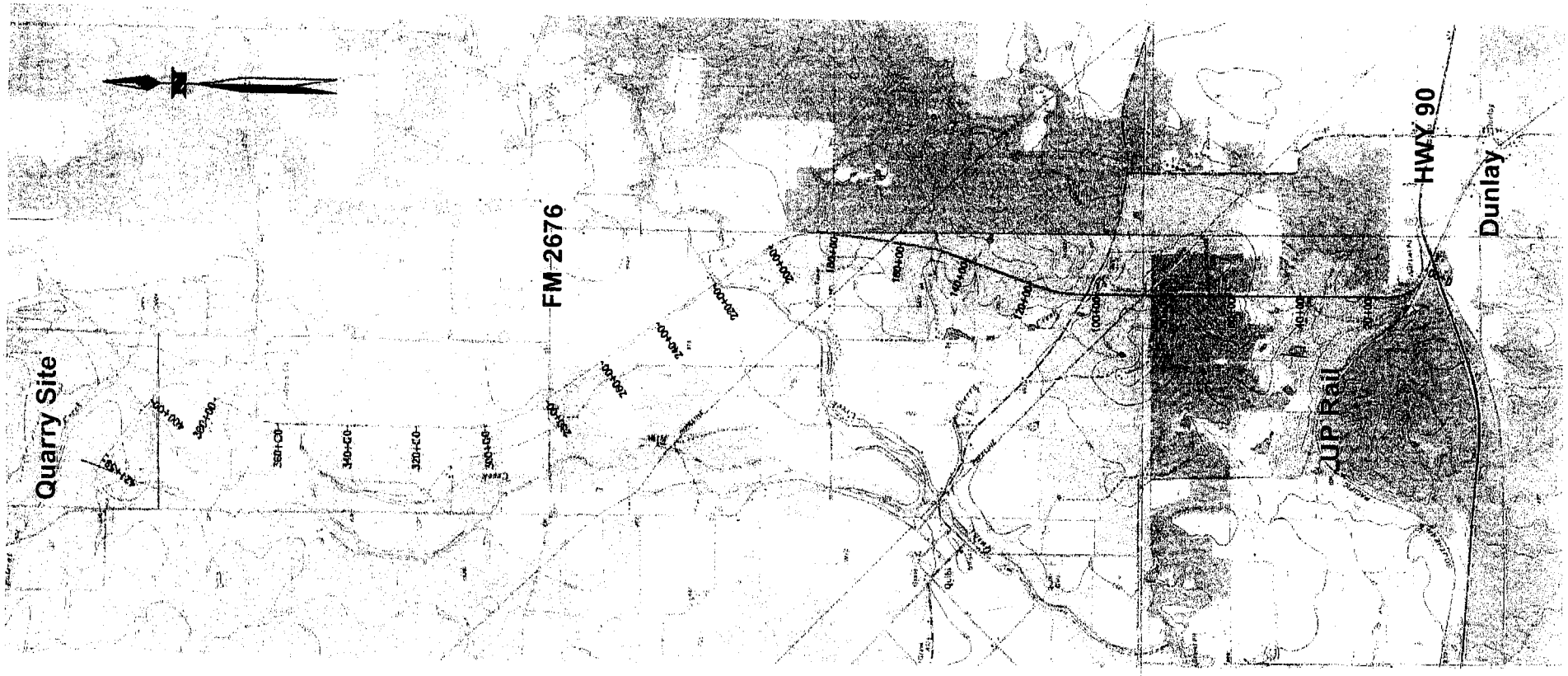
Conceptual Plan



LOCATION PLAN
Scale 1"=2000

Original version submitted in color. Please contact the Section of Environmental Analysis to view a color copy.

Conceptual Plan



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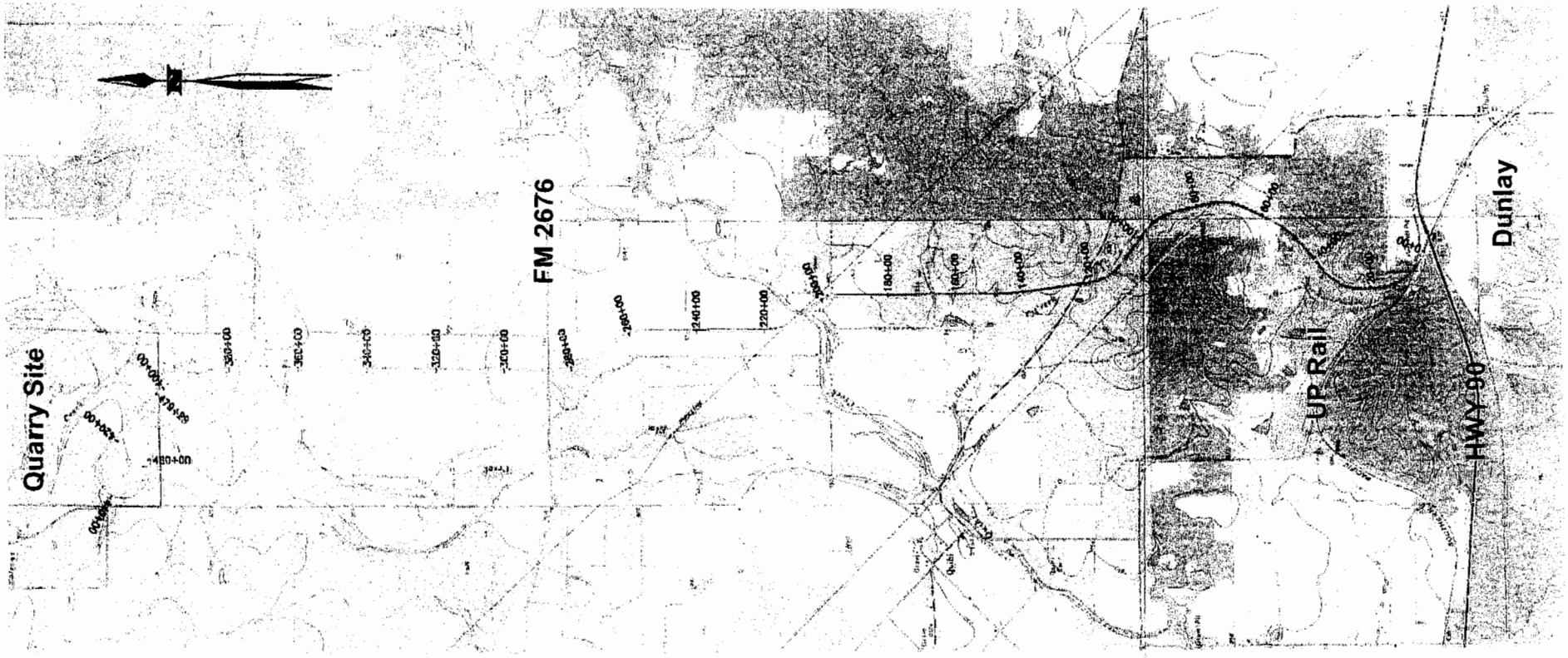

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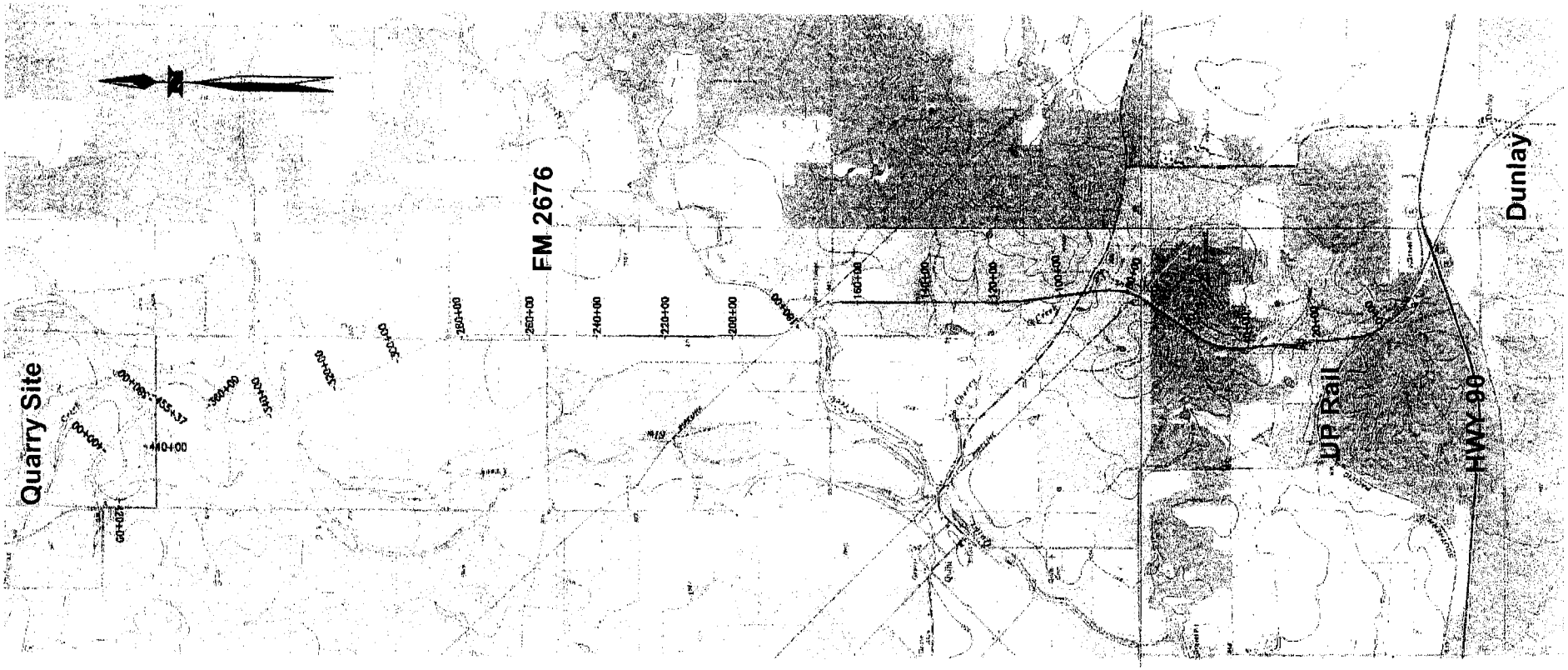


LOCATION PLAN
Scale 1"=2000

Original version submitted in color.
Please contact the Section of Environmental Analysis to view a color copy.

González, Tate & Iruegas, Inc.
Environmental Consultants

March 30, 2005

Mr. David H. Coburn
Steptoe & Johnson LLP
1330 Connecticut Avenue, N. W.
Washington, DC 20036

Re: Potential historic property resources in the Quihi and New Fountain area, Medina County, Texas (STB Finance Docket No. 34284)

Dear Mr. Coburn:

As requested, I have prepared this letter and attached map to address, from a cultural resources perspective, a "western bypass" alignment for the Southwest Gulf Railroad (SGR) line. I understand that SGR has been asked by the Surface Transportation Board's Section of Environmental Analysis (SEA) to address the feasibility of such a bypass around the Quihi area. It is my strong opinion that any bypass west of Quihi—which would necessarily traverse the New Fountain area—has a greater potential to adversely effect historic properties in the area, notably those associated with Henri Castro's colonization of Medina County, Texas.

I have prepared this letter and map from my perspective as a former Program Administrator II and Section 106 project reviewer for the Texas Historical Commission, and as a qualified professional that meets the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation. I have over five years experience working for the THC, and a combined 18 years experience working directly with the National Historic Preservation Act. I have a bachelor's degree in History, a master's degree in Archaeology, and I have completed my Ph.D. coursework in Historical Archaeology. My Ph.D. coursework included American history and architecture, as well as, historic preservation coursework towards my Cultural Heritage Management prerequisite. I worked for Harvard University's Peabody Museum for three years, and I have over two years experience managing historic preservation projects that included detailed investigations of historic structures and preparation of historic structures research reports. I have also served on the Board of Directors for the Swede Hill Neighborhood

8127 Mesa Drive
Suite B206, PMB117
Austin, Texas 78759

Voice: 512-914-4841
Fax: 512-241-0851
Email: gti@gtienvironmental.com

Association that I helped organize to preserve the Swedish Hill National Register Historic District in Austin, Texas.

Consideration of a western by-pass loop would require expanding the Areas of Potential Effect of the proposed SGR line and alternatives under review westward from their current boundaries to include New Fountain. New Fountain is a larger, well established, historic community with a longer history than Quihi. Ten families settled the Quihi community—two of which were killed within the first year. New Fountain, on the other hand, had numerous families and a well established community that thrived beyond agricultural pursuits. Its population was over 400 before the end of the 1800s. There would be a substantial concern for historical archaeology sites as well as historic properties. The land surrounding New Fountain has a higher probability area in which prehistoric archaeological sites are more likely to be present due to the numerous confluences of creeks, as compared to the area surrounding Quihi.

I have reviewed the Texas Historical Commission's "Visionaries in Preservation: Castroville Report." The Report includes the basis for a historic context regarding Henri Castro's efforts to colonize the area. Further, the Handbook of Texas discusses the French Alsatians in Quihi and the Germans in New Fountain that responded to Castro's advertisements of new land and opportunities. According to the Handbook of Texas, in 1845 a number of German families in Henri Castro's colony settled on Verde Creek at Vandenberg, and a year later they moved to a new reliable water resource area known historically and today as New Fountain. In 1858, the Reverend F. A. Schaper, a German Methodist, organized a Methodist church that has served its congregation for more than 100 years. The church is known today as the Ebenezer Church of New Fountain. The fourth post office in Medina County opened in New Fountain in 1857, with Roland Goering as postmaster.

In 1860, New Fountain had the Methodist church, a mill, and a Masonic lodge. By this time the town was a stagecoach stop on the old road from San Antonio to Uvalde. The first New Fountain School was established in 1876. In 1896, New Fountain had become well established with a population of 400 and two general stores, a corn mill, and a railroad express. Sometime in the mid-1800s, George Muennink, of Hondo, founded the Old Muennink Gin in New Fountain. It is believed to have been the first cotton gin in Medina County.

Because of the numerous German families that settled New Fountain and the numerous historic resources, such as the historic church, school, post office, cotton gin, general stores, and corn mill, the proposed construction of a by-pass railroad loop west of Quihi in the New Fountain area has a greater potential to adversely effect historic properties associated with Henri Castro's colonization of Medina County, Texas.

The attached USGS topographic map shows unverified resources, indicated by red flags, west of the project Area of Potential Effect. These resources consist of structures located in the New Fountain area and the area generally west of Quihi. The structures may or may not be historic resources, although it is more likely than not that structures located along creeks are historic. The blue flags represent those verified and unverified potential historic resources in the general vicinity of the SGR preferred route, which is east of the area generally known as Quihi. The red triangle indicates a National Register listed property. Yellow diamonds indicate historic cemeteries or graves based on the topographic map. (I reviewed the Texas Historical Commission's atlas database for evidence of documented historic resources in the area of New Fountain. Neither historic buildings nor archeological sites have been documented, nor has the area been surveyed for archeological sites or for historic structures.)

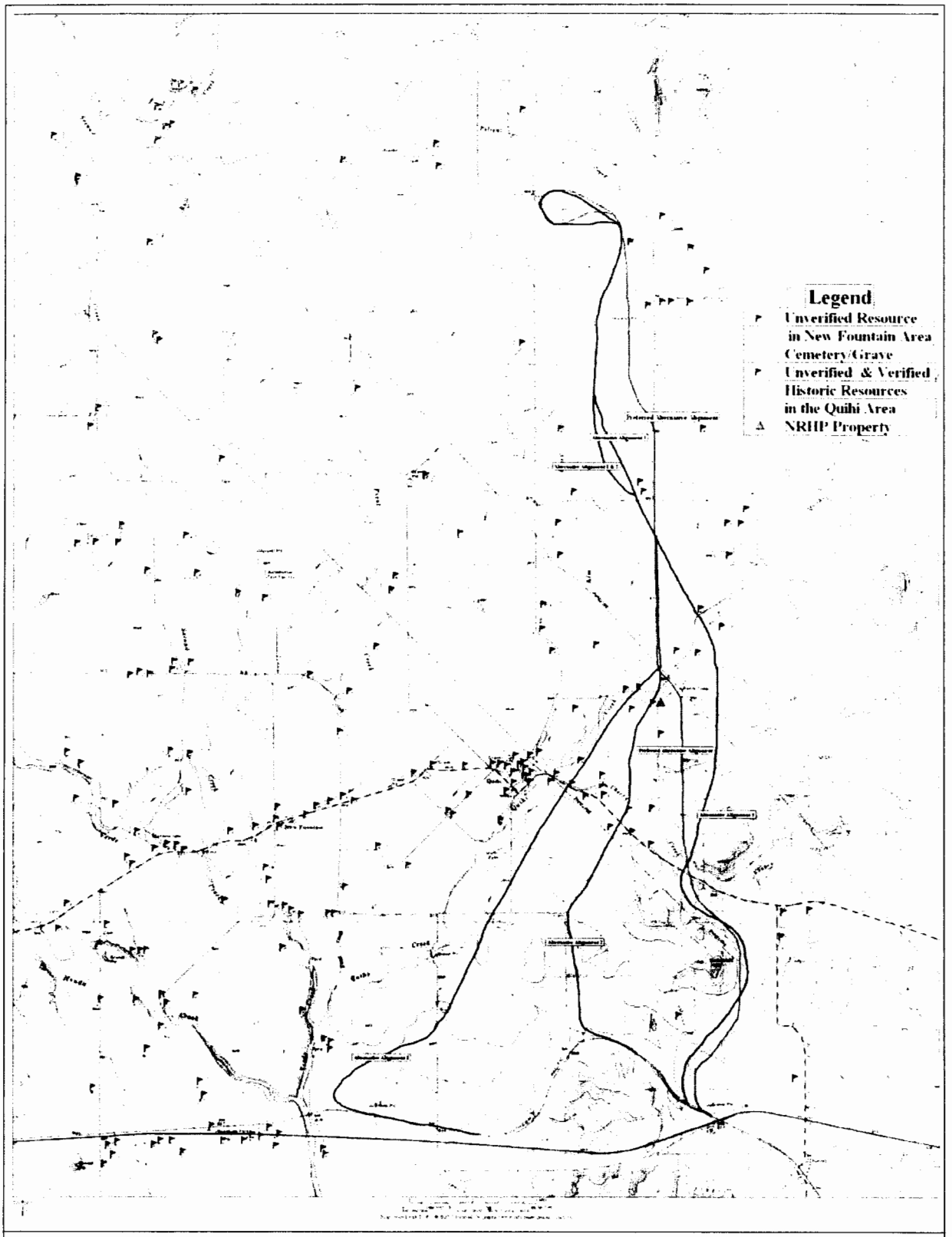
It is important to note that the unverified historic resources I indicate on the map with red flags are far more numerous than the blue flagged verified and unverified historic resources in the project Area of Potential Effect east of Quihi. This underscores that any routing of the SGR line west of its current planned position will likely increase the opportunity for impacts to historic resources.

I appreciate the opportunity to offer these views.

Regards,

Sergio A. Iruegas, RPA
President/Cultural Resources Director

Original version submitted in color.
Please contact the Section of Environmental Analysis to view a color copy.

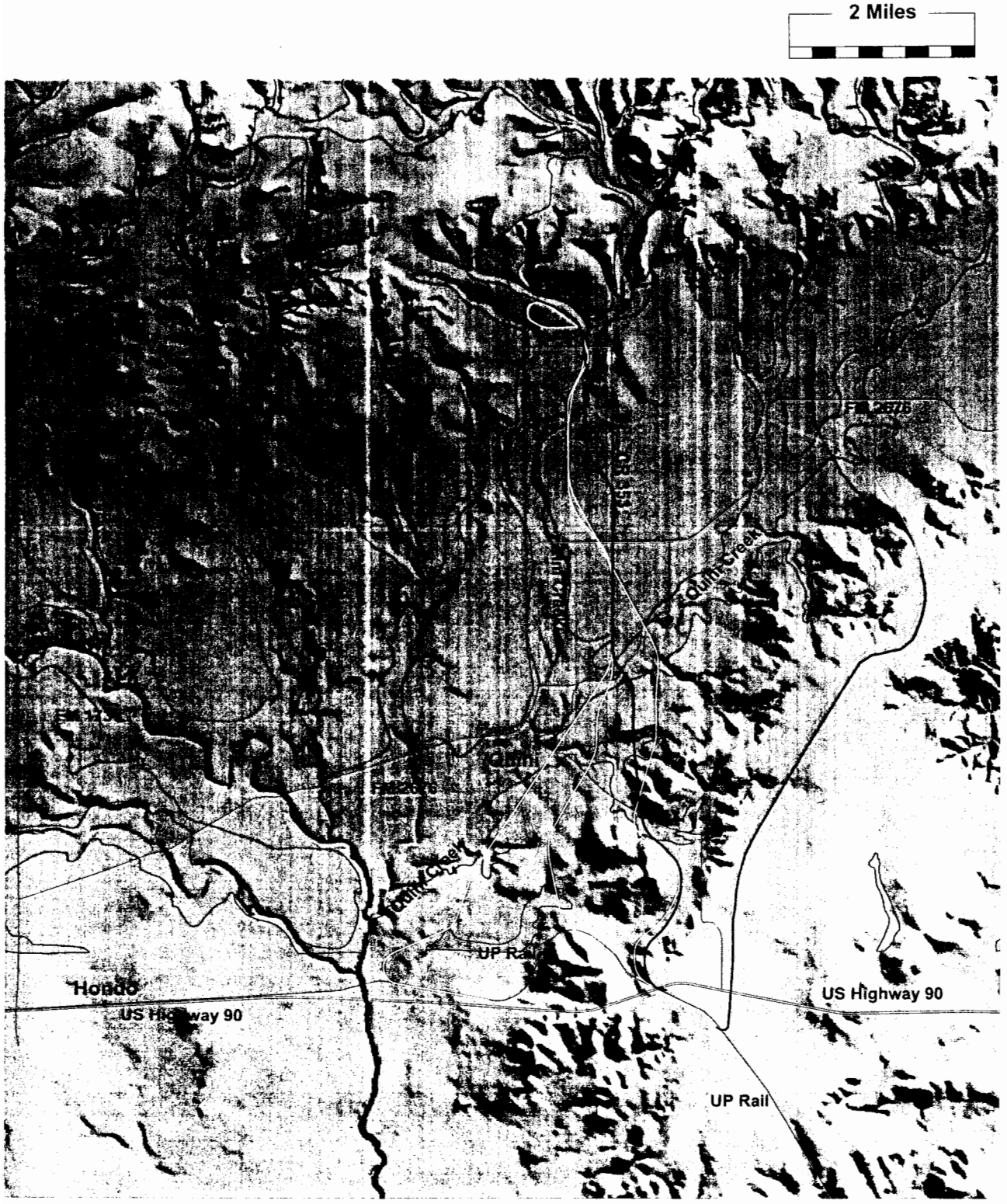


González, Tate & Iruegas, Inc.
Environmental Consultants

Verified and Unverified Potential Historic Resources in the New Fountain and Quihi Area, Medina County, Texas

Original version submitted in color & 11x17 inch size. Please contact the Section of Environmental Analysis to view a color copy.

Southwest Gulf Railroad Company: Medina County, Texas EXHIBIT 3



Magenta Colored Line - SGR Proposed Route
Red Colored Line - Old Medina Lake Dam Rail Route

Blue Colored Lines - FEMA Flood Plain

SGR RAIL PROJECT

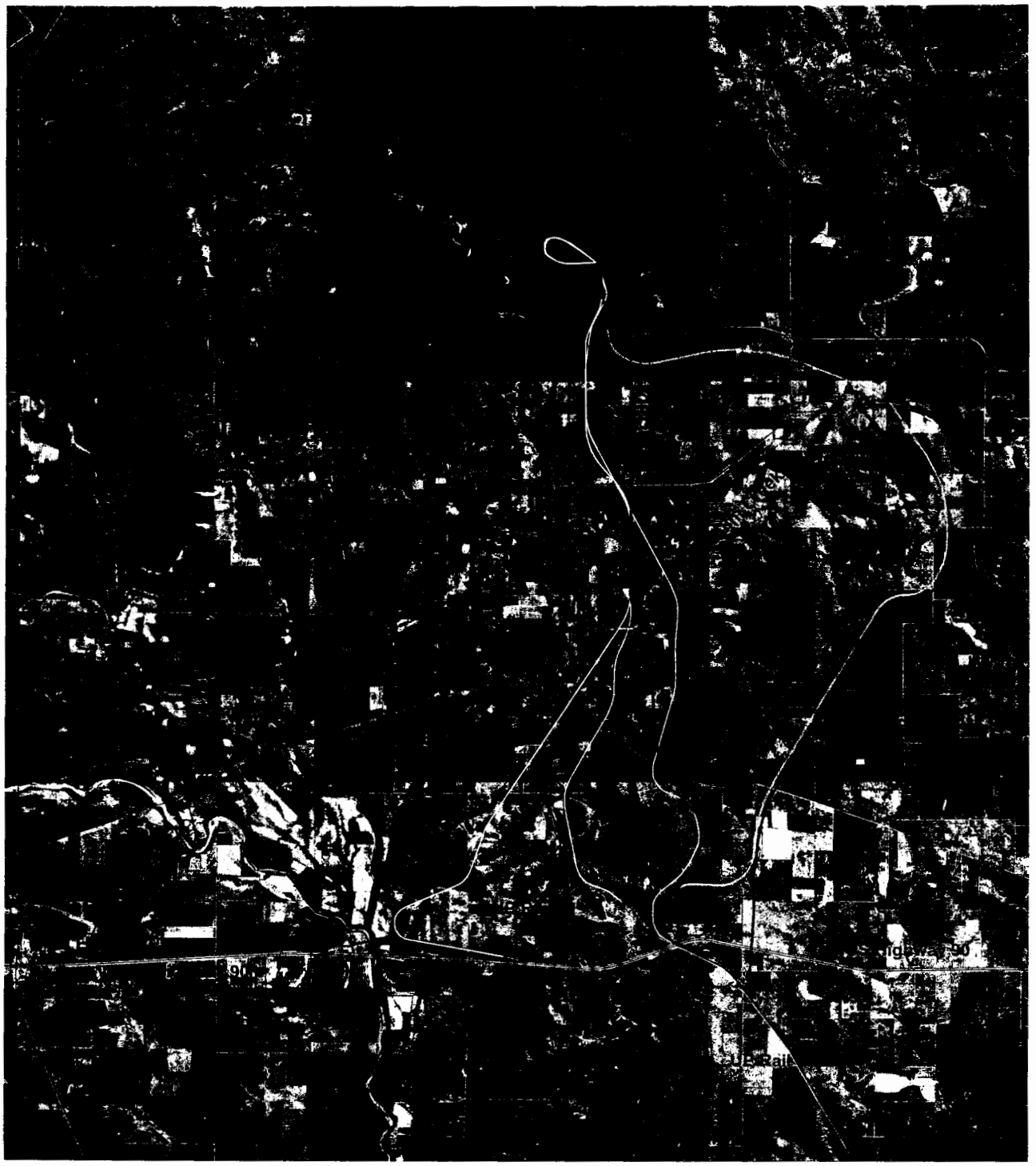
Cut and Fill Data for Alternative Routes

(stopping fill at flood plain and using trestles to cross streams)

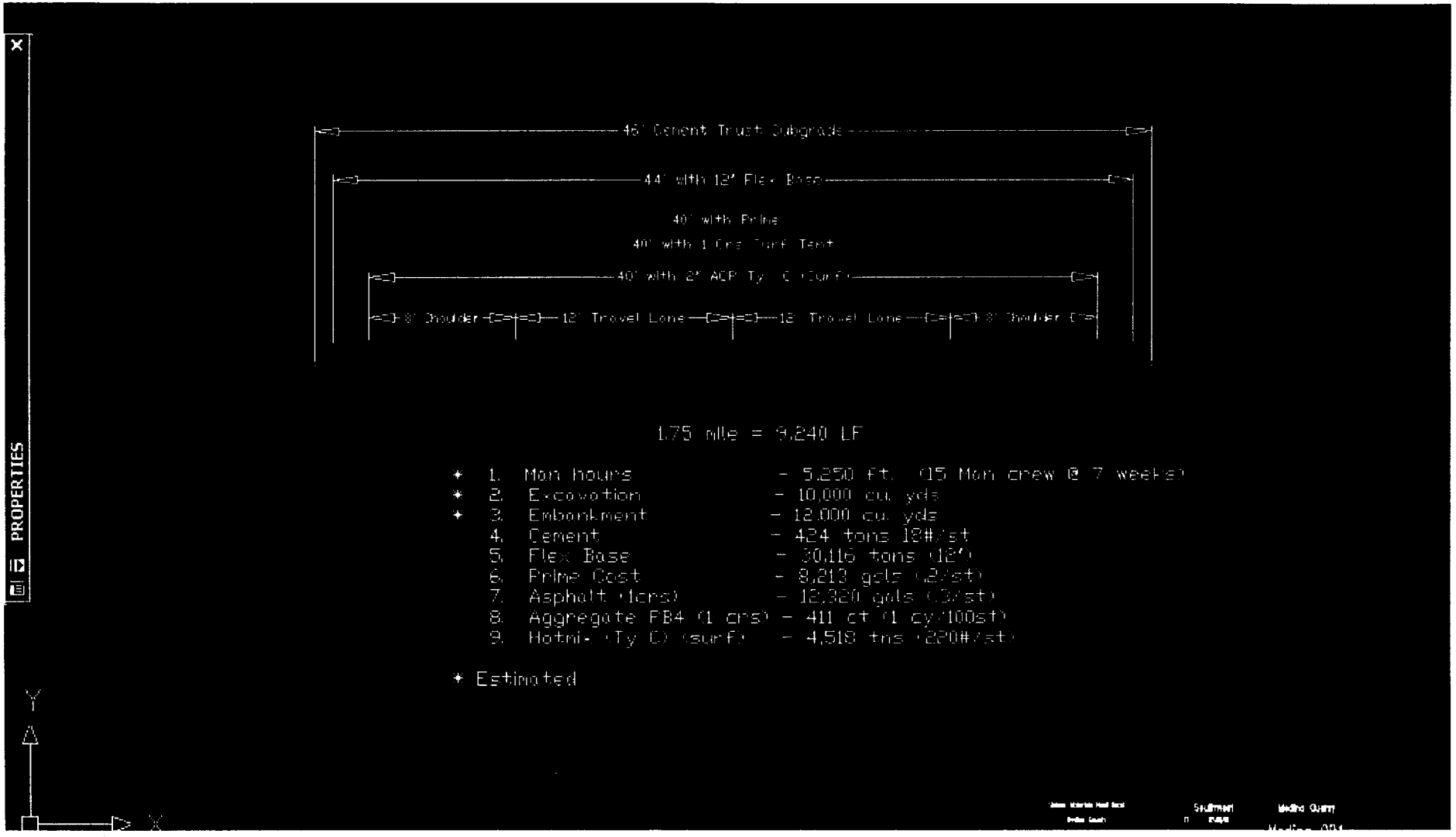
Route	Maximum Elevation of Route	Minimum Elevation of Route	Average of Elevation of Route	Cut in Cu Yds	Fill in Cu Yds	Net in Cu Yds
Proposed Alignment	991.83	859.38	913.99	167,683	101,973	65,710
Alternative Alignment # 1	931.51	819.93	868.89	22,456	187,430	(164,974)
Alternative Alignment # 2	934.70	857.51	895.08	69,562	123,775	(54,213)
Alternative Alignment # 3	979.82	865.86	918.71	109,882	425,865	(315,983)
Medina Dam Route (assumes deviations proposed by SGR)	1,056.18	908.30	983.81	729,778	928,248	(198,470)

Original version submitted in color and 11x17 inch size. Please contact the Section of Environmental Analysis to view a color copy.

Southwest Gulf Railroad Company: Medina County, Texas EXHIBIT 5

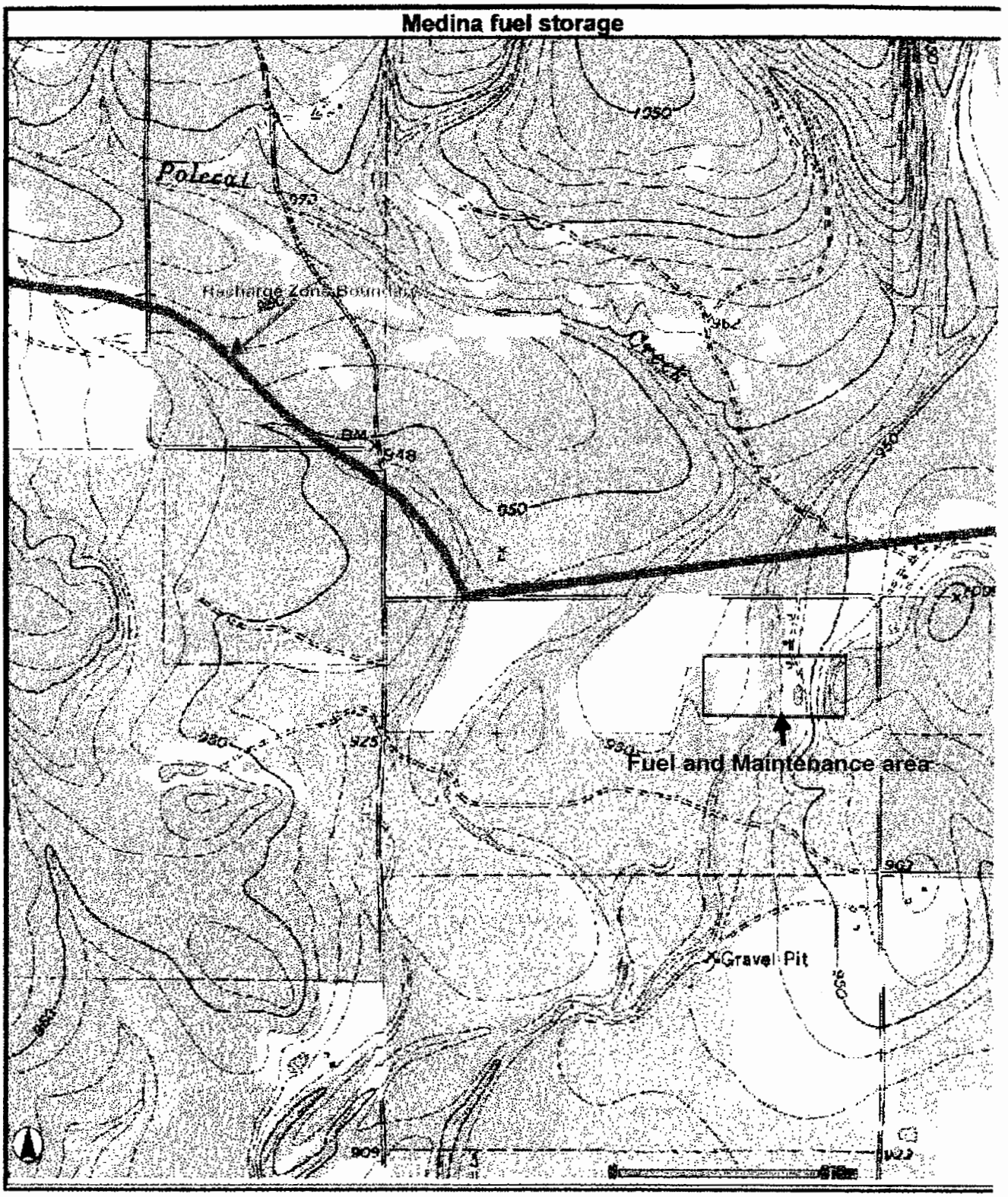


Magenta Colored Line - SGR Proposed Route
Red Colored Line - Old Medina Lake Dam Rail Route



original version submitted with several color lines and 8½ x14 inch size. Color lines do not appear in B&W version. Please contact the Section of Environmental Analysis to view a color copy.

EXHIBIT 7



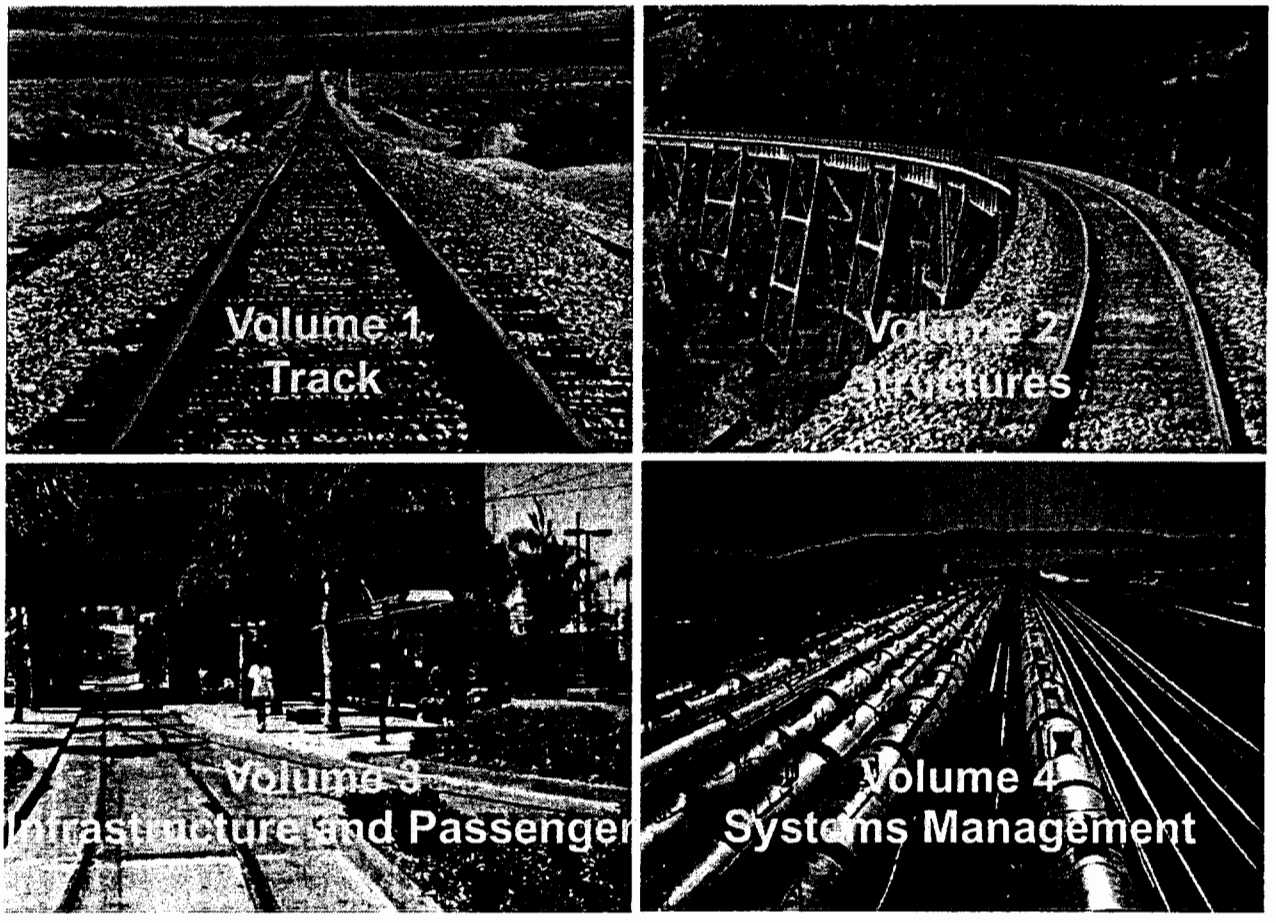
Original version submitted with some color images that appear in gray in B&W version. Please contact the Section of Environmental Analysis to view a color copy.

AREMA

American Railway Engineering and Maintenance-of-Way Association

2004

Manual for Railway Engineering



Main TOC

TABLE OF CONTENTS

Current until publication of next edition

FOREWORD

This Manual is divided into four Volumes which are further subdivided into Chapters and Parts. Each volume contains a general subject index covering data found in all volumes. Each Chapter and Part are prefaced by a Table of Contents.

Because of numbering of Chapters to coincide in most cases with AREMA technical committees, there are no Chapters 3, 10, 13, 20, 21, 22, 23, 24, 25, 26, 31 and 32. Committee 24 does not maintain a Manual Chapter.

VOLUME 1 – TRACK

VOLUME 1 – TRACK (CONT)

VOLUME 2 – STRUCTURES

VOLUME 2 – STRUCTURES (CONT)

VOLUME 3 – INFRASTRUCTURE AND PASSENGER

VOLUME 3 – INFRASTRUCTURE AND PASSENGER (CONT)

VOLUME 4 – SYSTEMS MANAGEMENT

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2004

Manual for Railway Engineering

Volume 1

Track

AREMA
American Railway Engineering and Maintenance-of-Way Association

Part 9

Vegetation Control[1]

— 2001 —

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[1] References, Vol. 68, 1967, p. 605; Vol. 70, 1969, p. 190; Vol. 76, 1975, p. 145; Vol. 77, 1976, p. 238; Vol. 83, 1982, p. 153; Vol. 87, 1986, p. 55; Vol. 89, 1988, pp. 40, 61; Vol. 92, 1991, p. 41; Vol. 94, 1994, p. 30.

SECTION 9.1 RATIONALE AND SCOPE OF WORK

9.1.1 GENERAL (1994)

Reasons to control Vegetation on Railroad Right-of-Ways.

a. Ballast Sections:

- Maintain drainage.
- Allow for inspection.
- Prevent wheel slippage or sliding.

b. Shoulders and Ditches:

- Maintain drainage.
- Provide safe walkways.
- Allow for inspection of trains.
- Reduce fire hazards.

c. Bridges, Buildings and Other Structures:

- Prevention of Fires.
- Permit proper inspection of structure.
- Facilitate maintenance of structure.

d. Yards:

- Promote safety.
- Improve efficiency of yard operations.
- Permit proper inspection of track.
- Facilitate track maintenance.
- Prevent fires.

e. Noxious Weeds:

- Insure health and safety of employees.
- Comply with legal requirements.
- Reduce plant propagation to neighboring properties.

f. Signal Appurtenances:

- Maintain visibility of signals, switch position indicators and derails.
- Permit safe, efficient operation of switch stands and telephones.

g. Wayside Signs:

- Maintain visibility of speed signs, whistle signs, mile posts, etc.

h. Signal Communication and Power Lines:

- Prevent service interruptions.

i. Brush Adjacent to Track:

- To permit inspection of moving trains.
- To prevent close clearance hazards.

j. Highway Grade Crossings:

SECTION 9.2 PREPARING A VEGETATION CONTROL PROGRAM

9.2.1 VEGETATION CONTROL METHODS (1994)

The methods employed to control vegetation on railroad rights-of-way may be grouped into three general categories; controlled burning, mechanical control and chemical control. In the course of developing a program, a determination must be made of the method to be used. If the program is extensive, a combination of these methods may be desirable.

9.2.1.1 Controlled Burning

This method, used rather extensively in certain areas of the country at one time, is now rarely used. The cost of fuel as well as the labor associated with this type of operation is very high. In addition, the pollution caused by smoke and fumes are no longer acceptable to the general public. Burning is prohibited by law in many areas of the country. Weed burning usually produces only temporary control, and even when it is practiced, it may be necessary to burn several times each year. However, in several states, Departments of Forestry require hundreds of miles of fire lane burned or plowed; notably, Florida and Virginia.

9.2.1.2 Mechanical Control

a. This category includes methods involving the use of hand tools such as brush hooks, axes, and scythes, including all types of power equipment since the results obtained are similar. The determination of where to use these mechanical methods should be based on the degree of control desired, availability of labor force, and existing conditions.

b. Lawn maintenance by mowing in the vicinity of stations, offices, and other facilities is part of the vegetation control program. Mowing may also be performed on the rights-of-way where terrain permits; particularly in the area beyond drainage ditches to the right-of-way line. The reasons are:

- Visibility adjacent to grade crossings.
- Preventing the spread of weed seeds onto adjacent farmland.
- Aesthetic value.

c. The establishment of permanent, maintenance-free ground cover may be justified. Mowing weeds and grasses in the track and shoulder area is also useful, principally to cut down uncontrolled vegetation. The use of this practice in ballast areas will further contribute to the fouling of the ballast.

d. Recent developments in mechanical control have been largely directed toward brush cutting. Equipment is available to perform this work operating either on track, off track or with the flexibility of hy-rail equipment. On-track equipment has the advantage of not having to operate over rough terrain. The area which can be worked is limited by the lateral reach of the cutting equipment from the track. Productive time may be limited with such equipment, depending upon the density of the rail traffic. Off-track equipment can work independently of train movements and is not restricted by the distance from the track. This may be of particular value in working under communication and signal lines. Frequently, the area covered per working hour may be less than that with on-track equipment as the equipment may have to traverse rough terrain. While hy-rail equipment may be more flexible, its construction is such that it generally cannot cover terrain as rugged as equipment designed exclusively for off track usage.

e. The cost of controlling brush by mechanical methods is usually greater than the cost of chemical brush control. Mechanical brush control is appropriate for situations where removal of all standing vegetation is required such as interference with communication lines, clearance, or visibility. Once the brush cutting is accomplished, it will usually be more economical to control regrowth by chemical methods. Mechanical control may also be used when the use of herbicides is restricted due to federal, state, or local regulations, proximity of adjacent crops, ornamental vegetation, or pesticide sensitive people living adjacent to the right-of-way.

9.2.1.3 Chemical Control

The predominate method of controlling vegetation on rail rights-of-way is with herbicides. Factors which contribute to the use of herbicides are:

- Economy.
- Ease of application.
- Ability to regulate degree of control, including percentage of control, duration of control period, and selectivity.
- Productivity, which results in less demands on available labor force and track occupancy.

9.2.2 DEGREE OF CONTROL (2001)

Where controlled burning or mechanical control methods are used, the degree of control obtained is usually a fixed characteristic of the method used. With chemical methods the desired degree of control can be regulated with the area requirements and available funds, It is important to determine the degree of control required by segments in the early stages of planning and to develop the program in accordance with these requirements. Degrees of control attainable are described as follows:

9.2.2.1 Long Term Weed Control

Complete eradication of vegetation for the entire growing season is the most expensive degree of control. Initial high rates of residual herbicides followed by reduced rates are required for a successful program. Bare ground is usually desired under and around timber bridges, switch stands, fuel storage tanks, yards, and terminal areas.

9.2.2.2 Short Term Weed Control

This term denotes a high degree of control, but not to the extent that bare ground is obtained. It involves the use of an herbicide or combination of herbicides to control weeds which are present, plus residual control for less than a growing season. One or two treatments may be necessary per growing season depending on the herbicides used, weed species present, and length of the growing season. Short term control is usually programmed for highway grade crossings, passing tracks and sidings, and maintrack areas such as ballast sections and shoulders.

9.2.2.3 Chemical Weed Mowing

This term is used to describe treatments aimed at reducing the above ground vegetation body without retarding the process of resurgence of more desired species. Systemic or translocated herbicides are generally used for chemical weed mowing, and the degree of control is short term. One to four applications per year may be necessary depending on the amount of rainfall and the length of the growing season.

9.2.2.4 Selective Weeding

Selective weeding is the use of herbicides to control specific species of vegeatation without damaging desired species. This method is used on the right-of-way outside the established roadbed pattern. Selective weeding can be used to control vegetation designated as noxious by state and local governments. It is also used to control brush and vines along the railroad property. Multiple treatments may be needed to fully establish the desired species.

9.2.3 QUANTITATIVE CONSIDERATIONS (1994)

9.2.3.1 Patterns and Acreage

a. Railroads generally exercise the option of specifying not only the total acreage to be treated, but the treatment shape, or pattern. By using the centerline of the track as a reference point, it is possible to define a simple pattern, as in a yard program pattern. Main and branch line patterns may be specified as a ballast pattern (which may not require an out-of-face treatment), and a shoulder or toe path pattern. Figures frequently specified as pattern widths are found in Table 1-9-1.

b. An estimate of acres per track mile may be derived by dividing the pattern width in feet by eight. This figure times the treated miles yields a total program acreage if treated out-of-face. Actual acres treated may be less if the ballast area has been "spot treated", that is, spraying only when vegetation is visible. Similarly, brush acres may be spot treated as needed, which will cause the actual acreage to be less, or in some cases more, than those shown in Table 1-9-1.

Table 1-9-1. Pattern Widths

Program	Pattern	Width	Acres/Mile
Yard	14′	Treat tracks to overlap, out-of face	1.75
Branch	16′-20′	2-4 foot toe paths, spot treat center 8-12 feet	1.75-2.25
Main line	18′-28′	2-4 foot toepaths, spot treat center 10-12 feet	1.5-2.75
Siding	16′-20′	Treat out-of-face	2.00-2.50
Crossing	50′-100′	Pattern starts at the outer edge of roadbed pattern, four quadrants per crossing (Note 1).	0.50-1.00
Brush			
Pole line	40′-60′	Acreage may vary depending on density of brush	5.00-7.50
Opposite side	10′-24′	Treat for clearance	1.25-3.00
Note 1: State requirements for patterns may vary. Consult with state agencies before specifying spray patterns for crossings.			

9.2.3.2 Contract Costs

a. Most railroads do not use their own personnel for the application of herbicides. The vegetation control program may be awarded to contract applicators. The contracts may be awarded as Guaranteed Performance contracts, or as Railroad Specified contracts. Both may be awarded by competitive bidding. With Guaranteed Performance contracts the railroad does not specify the herbicides or acreage. The pattern widths and areas to be treated are specified, but the railroad pays a lump sum amount on the condition that the property will be maintained to the satisfaction of the railroad company. With a railroad specified program the railroad specifies the herbicide formulations and acreage to be treated. The contractor provides a total cost per acre, which includes both the cost of the specified herbicides and the application cost per designated acre. The railroad may wish to ask for the price of each component in order to ascertain what percentage of the budget is labor and what percentage is materials. The following formula illustrates this point:

Herbicide $/acre + Application $/acre = Total $/acre

b. The program cost is the product of Total $/acre times the number of acres.

9.2.3.3 Survey

a. A number of methods may be used to determine the acreage involved in the proposed program. Vegetation control is performed on the basis of fixed patterns. It is possible to estimate a constant per mile acreage by allowing for an out-of-face treatment to the toe path area on each side of the track. The toe path treatment will generally be four feet. This is supplemented by a spot application to the ballast area. The allotment is usually based upon treating half of the area to be spot treated per mile. The allocation can range from 0.5 to 1.0 acres per mile. The density of the spot application can best be determined by a field survey. Allocations should also be made for out-of-face treatments on the roadbed at crossings, through switches, and in areas of dirty or fouled ballast. Areas such as yards require treatment of the total facility, in which case the acreage can be accurately determined. The determination for brush spray requirements need a field survey, since the density per mile varies. Treatments of such facilities as bridges and grade crossings should be specified by acres for consistency, but can be specified on a unit basis rather than an acreage basis.

b. The methods of estimating may vary depending on the scope of the work, the level at which the estimating is done and the familiarity with the actual field conditions. In any case, it is necessary to accurately define the program and determine the quantities which are needed in each area.

9.2.4 SCHEDULING OF WORK (1994)

The type of treatment used and the degree of control desired will determine when the application should be performed. All herbicide labels state the proper time of the year to apply the product to insure optimum results. The label recommendations should be followed, and the availability of labor and equipment, climatic conditions and requirements for track occupancy must also be considered when scheduling the work.

9.2.4.1 Controlled Burning

This is usually performed in the autumn after the vegetation has become dry, but before the first snowfall.

9.2.4.2 Mechanical Control

Weather conditions often affect equipment mobility because of soft ground or snow cover.

9.2.4.3 Chemical Control

To determine the proper herbicides to use for the control of weeds and grasses, the vegetation must first be identified. The susceptibility of the various species to the products available must also be determined. The determination can then be made to use a pre-emergent or post-emergent application. Program herbicides with a contact or systemic mode of action are of no value in a pre-emergent program. This type of application should be limited to residual herbicides. While residuals are also valuable in post-emergent applications, they are normally used in combination with contact and/or systemic products. Factors such as rainfall and length of growing season will affect the herbicides selection process. There are several types of brush control treatments available.

9.2.4.3.1 Summer Foliage

Such treatments are made after the brush reaches full leaf and is actively growing.

9.2.4.3.2 Dormant Stem (cane)

These applications are made during late fall and winter while the brush is completely dormant. An advantage of this method is the reduction of potential damage to adjacent crop lands which can be caused by drift during summer foliage applications.

9.2.4.3.3 Basal Treatments

Basal treatments are generally individual stem treatments. The herbicide is applied to the basal and root collar area. It is of particular value for control of cut stumps or for clean up of scattered plants. This method can be used any time of the year.

9.2.4.3.4 Soil Treatments

Soil applications are made with pellets, granular, and liquids, either by a broadcast application to the entire area, or by spot treatment to the ground around individual stems or clusters. This type of application can be made at any time of the year except when the ground is frozen. Rainfall is necessary to activate these materials.

9.2.5 CHEMICAL CONTROL – SELECTION OF HERBICIDES (1994)

9.2.5.1 Species to be Controlled

a. An important consideration when selecting herbicides is the type of vegetation to be controlled. Generally, vegetation is categorized as grasses, sedges, broad-leaf weeds, vines, or brush. Programming for such broad categories can be beneficial in that it will lead to the selection of herbicides that are reasonably effective on many different species and subspecies. There is considerable variation in the susceptibility of different plants to the various herbicides.

b. Weed resistance to the treatments being applied may take over an area if the same herbicides are used year after year. Species which are susceptible to the formulations being applied are easily controlled. It then becomes necessary to change the herbicide formulations to prevent the proliferation of resistant plants.

9.2.5.2 Herbicide Information

a. A reliable source of data pertinent to a particular herbicide is the label which is affixed to the herbicide container. Labeling is the literature which is used in promoting the products. Labeling is now considered to be a part of the official label by the Environmental Protection Agency. It must not differ in meaning from the information furnished to the EPA when the product was registered.

b. All labels require approval by the EPA. The label must show the registration number and establishment number issued by the EPA. This information can always be found on the bottom center panel of the label. Herbicides cannot be shipped either intra- or interstate unless the product is in its original labeled container.

c. The Insecticide, Fungicide and Rodenticide Act, as amended by the Federal Environmental Pest Control Act of 1972, requires extensive investigation and testing prior to granting label registration. Performance data and toxicity testing from various regions throughout the country is required before granting label registration. All use precautions for the product are required to be listed on the label. A thorough understanding of the label is necessary to insure safe and effective use of the herbicides selected. Personnel charged with vegetation management should keep abreast of changes and new developments.

9.2.5.3 Factors Affecting Herbicide Performance

Prior to the final choice of herbicides, a number of other factors should be considered which might affect the performance of the herbicides. Significant factors are:

9.2.5.3.1 Soils

a. In considering this variable as related to an overall vegetation management program, it should be noted that the character of the soil generally does not affect the use of contact or systemic type herbicides except as soil affects the plant growth process. These products are applied directly to the plant and pass through that medium.

b. Residual herbicides are applied to the soil taken into the plant through the root system, and therefore are affected by soil type. The most significant effect of soils on organic compounds applied to them is the physical absorption of the product. This physical absorption, which is caused by the mineral and organic colloids in the soil, renders the chemicals biologically unavailable. It is however, this same characteristic which determines, to a large degree, the length of time during which the product will be effective.

c. Absorption varies from one soil to another depending upon the concentration of clay and organic matter, and the chemical and physical properties of the compounds being applied. Sand and silt content do not require as much herbicide to produce weed control as do soils that are high in clay and organic matter. However, because they do not retain them as well, the duration of effective weed control is usually shorter.

9.2.5.3.2 Rainfall

a. Rainfall is important as a source of moisture for producing good growing conditions that make plants more susceptible to chemical treatments. Excessive rainfall can also cause problems. Highly porous soils and those low in clay and organic matter can cause too rapid leaching of herbicides through the soil and out of the root area. This can produce a lower level of vegetation control that is of shorter duration. Excessive rainfall can also cause surface movement of the herbicides out of the target area. This can cause a lower degree of control and damage to off-target vegetation such as crops and ornamentals.

b. The rainfall patterns common in various geographical regions are also important. The amount and timing of rainfall can control when herbicides can successfully be applied. The amount of rainfall can almost always be correlated with the types of soil and weed species present in a given location. Low rainfall areas generally produce more alkaline soils, while moderate and high rainfall areas produce neutral or acidic soils.

c. During drought periods plants usually undergo growth stress, resulting in poor performance of systemic and contact herbicides. The plants produce a heavy wax tissue on the leaves and stems to protect against excessive transpiration losses. During dry periods herbicides will remain on the soil surface until enough moisture is received to dissolve the material and carry it into the root zone.

d. The successful use of a particular product or combination of products depends very much on the interrelated functions of the chemical with the climate, the soil, and the species present.

9.2.5.3.3 Length of Growing Season

The length of the growing season is a consideration when selecting the proper herbicide. Normally, the longer the growing season the more resistant the vegetation. This necessitates higher use rates to realize an acceptable degree of control. The combination of a long growing season and a high rate of rainfall results in leaching of the residual herbicides below the root zone. Multiple applications are therefore required.

9.2.5.3.4 Temperature

a. Temperature affects the use of herbicides in a number of ways. The rate of plant growth and the length of time during the year when temperature is favorable for any plant growth are two important effects of temperature. Temperature, as it affects the factors responsible for the deterioration of the herbicide, can also be important. High temperatures generally accelerate these processes, while low temperatures delay this effect.

b. A general rule valid with most herbicide use is that most herbicides are more successfully used when plants are sensitive and vigorously growing. The systemic products have a substantially reduced effect when applied to plants approaching dormancy, and practically no effect when applied to dormant plants.

9.2.5.3.5 Soil Microorganisms

a. Microorganisms use all types of organic matter, including organic herbicide, as a food source. They are a major factor in the breakdown of residual herbicide. These organisms, which live in the soil, attack the applied herbicide, as they do any other organic matter, for nutritional elements that are contained in the product. Eighty to ninety percent of the product disappears from the soil during the first growing season due to these organisms.

b. Two factors which are favorable are: 1) microorganisms do not build up as a result of normal repeated application of these products and do not present a limiting factor to their use on an annual basis and 2) the products do not destroy the microorganisms and therefore do not change the flora of the soil.

9.2.5.3.6 Toxicity

Toxicity is the capacity of a substance to produce injury or death. It may be a factor in the herbicide selection process. Both oral and dermal toxicity should be considered. The LD 50 system of rating oral toxicity is explained in various manuals. For simplicity the toxicity of a product can be determined by looking for the signal word printed on the label. The signal words and a description is listed below.

DANGER This word signals that the product is highly toxic. A taste to a teaspoonful taken by mouth could kill an average sized adult. Any product that is highly toxic oral, dermal, or through inhalation or causes severe eye or skin burning will be labeled "DANGER". Any product classified as highly toxic with the DANGER signal word will also carry the word POISON printed in red and the skull and crossbones symbol.

WARNING This word signals that the product is moderately toxic. As little as a teaspoonful to a tablespoonful by mouth could kill the average sized adult. Any product that is moderately toxic oral, dermal, or through inhalation, or causes moderate eye and skin irritation will be labeled WARNING.

CAUTION This word signals that the product is slightly toxic. An ounce to more than a pint taken by mouth could kill the averaged sized adult. Any product which is slightly toxic oral, dermal, or through inhalation, or causes slight eye and skin irritation will be labeled CAUTION.

9.2.5.3.6.1 Special Toxicity Statements

If a product is especially hazardous to wildlife, that hazard will be stated on the label. For example:

a. This product is highly toxic to bees.

b. This product is toxic to fish.

c. This product is toxic to birds and other wildlife.

9.2.5.3.7 Government Regulations

The Federal Environmental Pest Control Act provides guidelines and authority for regulating and enforcing the sale and proper use of herbicides. Railroads engaged in vegetation control programs should be sure that proper licensing in the states in which work is to be performed has been obtained. Consult the State Department of Agriculture for information on the proper licensing procedures.

9.2.5.4 Herbicide Selection

There is no single ideal herbicide for applications. There may be two or more compounds of comparable suitability. At this point, relative economy may be a decisive factor. Even the most economical herbicide (or combination) may cost more than the funds available. In such a situation a review of the desired degree of control may be in order. If the original proposals are to be adhered to, low priority items should be eliminated from the program, rather than apply insufficient rates over the entire territory.

9.2.6 EQUIPMENT SELECTION (1994)

9.2.6.1 Controlled Burning

The primary equipment consists of on-track weed burners and hand carried torches, utilizing various petroleum products. When this method is used, adequate fire protection must be provided and permits acquired if necessary.

9.2.6.2 Mechanical Control

9.2.6.2.1 Weeds and Grasses

On and off-track, sickle-bar and rotary type equipment is available. The proper selection is dependent upon finances available and the topography of the area to be treated.

9.2.6.2.2 Brush

Rotary type, on-track, off-track, and hy-rail equipment is readily available. All equipment is available with varying lateral swath widths. This equipment is available in both single and double boom styles. Off-track equipment may be rubber tired or caterpillar type and brush cutters may be under slung or towed. Manual equipment consists of axes, chain saws, and rotary saws. It is suitable for terrain inaccessible to heavy equipment and for spot removal of large standing trees.

9.2.6.3 Chemical Control

9.2.6.3.1 Spray Trains

Spray trains are generally used for herbicide applications to the mainline areas. The trains can be either pushed or pulled and are generally run as a work train, enabling the train to make movements in both directions. In general a spray train is comprised of; a spray car, several large tank cars, and a box car for chemical concentrate storage. The productivity is very good for mainline applications. It loses much of its efficiency in terminal areas and on short branch lines. Spray trains provide multi-system capabilities, an opportunity for treatment of several different chemical formulations in a single pass.

9.2.6.3.2 Hy-Rail Trucks

The widespread use of hy-rail trucks with tank capacities ranging from 150 to 3,000 gallons is now available. The trucks are used for yard and terminal applications. The trucks can be used to treat branch lines, bridges, off track areas, and are becoming more popular for use on mainline applications. Production is somewhat less than that of a spray train, but hy-rail trucks are more mobile and require fewer operating personnel.

9.2.6.3.3 Dry Material Spreaders

These are used to distribute granular and pellet type material. They are available for use in areas not readily accessible to other types of application equipment. Dry applications are quite labor intensive.

SECTION 9.3 EXECUTING A VEGETATION CONTROL PROGRAM

9.3.1 PROGRESS REPORTS (1994)

a. Accurate application records can serve a variety of useful purposes. These are:

(1) Provide a day to day monitoring of work completed and material usage.

(2) Provide a means for developing mile by mile costs, to be used in developing future programs.

(3) Provide data on actual productivity which can be used for developing schedules for future programs.

(4) Provides evidence for legal cases and claims.

(5) Facilities compliance with State and Federal laws.

b. Guidelines for establishing a record keeping system:

(1) Determine the purpose of the report, and design the forms to conform to these purposes.

(2) Determine whether it is practical to obtain the information desired.

(3) If a contract application, determine if the contractor's report meets railroad criteria.

(4) Transmit daily reports promptly to the proper personnel.

9.3.2 TECHNIQUES OF CHEMICAL CONTROL (2001)

9.3.2.1 Herbicides for Liquid Formulations

Herbicides are available in various formulations. Field personnel should be familiar with these formulations and their characteristics. The formulations in use are:

a. *Water Soluble Concentrate.* Forms a solution when added to water and applied with water as a carrier. This formulation usually has an amine or metallic salt in the molecule which enables water solubility. Agitation is not necessary to maintain the pesticide in solution. The product usually contains two to eight pounds of active ingredient per gallon.

b. *Water Dispersible Granule or Dry Flowable.* Prepared as a granule sized particle. The product pours easily without associated dust. It readily disperses in water and forms a suspension. Constant agitation is required to keep the material in solution. The product usually contains a 70% to 90% active ingredient per pound.

c. *Wettable Powder.* A dry preparation which may contain 5% to 95% active ingredient per pound or product. Wettable powders form a suspension rather than a true solution.

d. *Soluble Powder.* A dry formulation which may contain 15% to 95% active ingredient per pound of product. Soluble powders look like wettable powders but they form a true solution when added to water.

e. *Emulsifiable Concentrate.* {E or EC} An emulsifieable concentrate formulation usually contains the active ingredient, petroleum solvents and an emulsifier. These concentrates are soluble in oil and form an emulsion in water. The oil droplet containing the pesticide is dispersed in water {oil in water emulsion}. The milky colored appearance when mixed with water is typical of emulsifiable concentrates. Usually by-pass agitation is sufficient to keep the emulsion from separating.

   The emulsifiable concentrate formulation {ester} is generally more phytotoxic than its water soluble {amine} counterpart. The ester formulation is more toxic to fish than the amine formulation. The ester formulation has a potential to be volatile and the suggested maximum soil and air temperatures may appear on the label.

f. *Flowable.* A flowable {F or L} consists of a finely ground solid material suspended in a liquid. Liquid flowables usually contain a high concentration {4 pounds or more per gallon} of active ingredient and are mixed with water for application. The mixture forms a suspension when added to water. Spray nozzles seldom clog and only moderate agitation is needed.

9.3.2.2 Formulations for Dry Applications

a. *Granule.* A ready to use dry mixture containing 1% to 15% of active ingredient per pound of product. Granules are never mixed with water.

b. *Pellets.* Are similar to granules in that they are ready to use. They contain 10% to 20% of active ingredient per pound of product. Pellets are larger than granules and are never mixed with water.

9.3.2.2.1 Mixing and Agitation

Most formulation solutions applied for weed control are prepared in the field. The concentrated chemicals are added to the spray tank and mixed thoroughly with an agitation system. All label information concerning mixing procedures should be read and understood before any mixing ensures. Good agitation; hydraulic or by-pass, should be used. Agitation should be maintained at all times if dry products are used. All herbicide formulations should be applied with properly calibrated application equipment.

9.3.2.2.2 Calibration

a. To insure the proper rate of application of the prescribed chemicals, a calibrated meter must be included in the system and the following must be taken into account:

(1) Number of outlets.

(2) Size and capacity of nozzles (orifice size).

(3) Dilution ratio of chemicals.

(4) Operating pressure.

(5) Speed of application equipment.

b. A check of the proper calibration should be made before the initial spraying operation begins and rechecked daily to assure continuity of the proper chemical application rates.

9.3.2.2.3 Speed and Pressure Control

Speedometers and pressure gages should be integral parts of any application equipment. A change of speed will disrupt the calibrated rate of chemicals unless the operating pressure is also changed at the same time, i.e. an increase in speed will reduce the rate of materials, therefore, the operating pressure must be increased to offset this difference.

9.3.2.2.4 Clogging of System

Clogging, or any obstruction in the spraying system, is detrimental to good vegetation control practices. To counteract this possibility, strainer units are placed in the system, preferably ahead of the intake side of the pump. In some cases, strainers are provided in the nozzle assembly. Sources of clogging include:

- Accumulation of rust from distributing containers and chemical pipe lines.
- Silt, sticks, and stones from water sources.
- Precipitation of chemicals caused by improper mixing techniques.
- Accumulation of improperly agitated, insoluble residuals in the chemical pipe line and/or pump.

9.3.3 PRECAUTIONS (1994)

9.3.3.1 Controlled Burning

Control of vegetation by burning introduces a number of hazards. Before burning is undertaken sufficient protection should be on hand to prevent the spread of fires to adjacent property. Burning should be avoided in the vicinity of wood bridges and other wooden structures. A less obvious but potentially serious hazard is the possibility of fires becoming established underground in cinders, peat, and wood chips, which may go undetected until well established. They can be difficult to extinguish and may result in collapse of the roadbed. Air pollution caused by burning is of increasing concern and burning is sometimes prohibited by law.

9.3.3.2 Mechanical Control

In the selection of equipment for a particular job, consideration should be given to its suitability for the use contemplated. Some of the more common safety hazards are:

a. Overturning on slopes.

b. Flying objects from cutting blades.

c. Presence of stone, scrap, cable, wire, etc.

d. Stumps and stubble.

e. Hand tools (chain saws, etc.) – exposure to cutting edges.

f. Danger of falls during manual work on steep slopes.

9.3.3.3 Chemical Control

a. When applying vegetation control chemicals, the possibility of wind causing drift of the spray mix materials should be considered. Spray drift can cause damage to susceptible crops and ornamentals adjacent to the right-of-way and may result in litigation. Application should immediately cease if the herbicide cannot be confined to the target area. Individual state statutes should be considered regarding wind velocity. Application techniques, mechanical devices, and/or drift control agents may be utilized to control drift.

b. Rain can be both beneficial and harmful. Rain provides the moisture necessary to maintain the plants in an active, growing state, which permits the uptake of the herbicides, and the carrying of residual chemicals to the root section of the plants. Rain immediately after treatment can wash the chemical from the plants (as in the case of contact herbicides) and cause run-off of the chemicals out of the target area.

SECTION 9.4 EVALUATING RESULTS OF A VEGETATION CONTROL PROGRAM

9.4.1 FIELD INSPECTIONS (1994)

9.4.1.1 Controlled Burning

The principal field evaluation of a controlled burning program is to determine the extent to which the programmed territory was covered and to identify any damage resulting from such a program. As the results of such a program are of relatively short duration, such an evaluation should be made fairly soon after the burning is accomplished.

9.4.1.2 Mechanical Control

Field evaluation of mowing weeds and grasses can determine whether the frequency of such operations is consistent with the results desired and the degree of effectiveness of such procedures on the terrain involved. Brush cutting operations should be evaluated on the basis of rate of regrowth and increased brush density due to suckering.

9.4.1.3 Chemical Control

9.4.1.3.1 Rating Extent of Control Obtained

9.4.1.3.1.1 Brush

Inspection at the end of the first growing season should be made to determine whether coverage is uniform throughout the target area. All brush should show typical herbicide response. Brush height and density may necessitate spraying in two consecutive years in order to obtain effective control of all brush when using on track spray equipment. Final evaluation should be made at the end of the second growing season following application of the herbicide. At that time it can be determined if the degree of control is consistent with requirements.

9.4.1.3.1.2 Weeds and Grasses

Evaluation should be made near the end of the growing season during which the treatment is made, but prior to frost. The evaluation should be made on the basis of percentage of effectiveness.

9.4.1.3.2 Identifying Problem Species

It is possible that any remaining will be composed of a limited number of species which are resistant to the treatment used. Even if these species represent a small problem at the time of inspection, it's likely they may proliferate due to the elimination of competing species. Future programs should be designed to control these remaining species.

9.4.1.3.3 Relating Results to Original Goals

The results of a spray program should be consistent with the needs as described in Article 9.2.2 and Article 9.2.3.1. Photographs of representative areas taken prior to the application of the herbicides can be valuable aid in making evaluations. The pictures should be identified as to location and date.

9.4.1.3.4 Contributing Factors

If it is determined that results are not consistent with what might reasonably be expected, one or any combination of the following may be contributing factors.

9.4.1.3.4.1 Chemicals

a. Improper mixing procedures.

b. Incompatibility between herbicides and/or their carriers.

9.4.1.3.4.2 Weather

a. Rain too soon after application can wash the herbicide from the plant or the soil surface.

b. Heavier than normal rainfall can leach and dilute soil applied herbicides.

c. Rainfall may be inadequate to activate soil applied herbicides.

d. Wet brush will not accept oil carrier spray solutions.

e. Extended periods of dry weather reduce the effectiveness of foliar applied herbicides.

9.4.1.3.4.3 Equipment

a. Improper calibration.

b. Inadequate agitation.

c. Clogging of nozzles.

9.4.2 ECONOMIC ANALYSIS (1994)

In addition to costs of material and contracts, labor and equipment cost can be a significant part of the total expense of vegetation control. Labor and equipment unit costs will vary with productivity. Well designed and properly completed daily reports can be an invaluable tool in determining costs and evaluating the efficiency of the operation. Thorough analysis of daily reports may indicate that changes should be considered in future programs in factors such as scheduling, type of equipment used, coordination with train operations, personnel assigned, and type of treatment applied.

SECTION 9.5 GLOSSARY (1994)

The following terms are for general use in Part 9. Refer to the Glossary located at the end of the chapter for definitions.

Absorption
Acre
Active Ingredient
Acute Oral Toxicity
Adjuvant
Adsorption
Agitation
Amine
Amine Salt
Annual
Basal Treatment
Biennial
Broad Leaf Weeds
Broadcast Application
Brush
Carcinogen
Carrier
Chlorosis
Chronic Toxicity
Common Chemical Name
Concentration
Contact Herbicide
Deciduous
Defoliant
Degradation
Dermal Toxicity
Dilute
Dormant Application
Drift
Dry Flowable
Emulsion
Emulsion Agent
Emulsion Concentrate
EPA
Ester
Foliar Application
Granule
Grassy Weeds
Herbaceous Plant
Herbicide
Label
Labeling
LC 50
LD 50
Leaching
Material Safety Data Sheet
Necrosis
Non-selective Herbicide
Oral Toxicity
Orifice
Pellet
Perennial
Photosynthesis
Post-emergence Treatment
Pre-emergence Treatment
Residual
Selective Herbicide
Soil Application
Soil Persistence
Solution
Species
Suckering
Surfactant
Systemic Herbicide
Toxicity
Translocated
Vines
Volatility
Weed
Wettable Power

SECTION 9.6 LEAD AGENCIES (1994)

Agricultural Chemical & Plant Protection
P.O. Box 3336
Montgomery, AL 36193
(205) 242-2656

Alaska Dept. of Environmental Conservation
Pesticide Use Specialist
Box 2309
Palmer, AK 99645
(907) 745-7348

Division of Feeds, Fertilizer & Pesticide State Plant Board
P.O. Box 1069
Little Rock, AR 72203
(501) 225-1698

CDFA Pesticide Branch
1220 N. Street Room
Sacramento, CA 95814
(916) 322-5032

Pesticide Section
Colorado State Department of Agriculture
700 Kipling Street
Lakewood, CO 80215-5894
(303) 239-4140

Pesticide Control
165 Capitol Avenue
Hartford, CT 60106
(203) 566-5148

Division of Consumer Protection
Delaware Department of Agriculture
2320 S. Dupont Highway
Dover, DE 19901
(302) 739-4811

Florida Dept. of Agriculture & Consumer Service
3125 Conner Blvd.
Tallahassee, FL 32399-1650 MD1
(904) 488-6838

Georgia Department of Agriculture
Capitol Square, Room 500
Atlanta, GA 30334
(404) 656-4958

Idaho Department of Agriculture
P.O. Box 790
Boise, ID 83701
(208) 334-3243

Illinois Department of Agricultural
Office Admin. 1V
P.O. Box 19281
Springfield, IL 62794
(217) 785-2427

Indiana State Chemist Office
170 Purdue University
West Lafayette, IN 47907
(317) 494-1598

Iowa Department of Agriculture Pesticide Division
Wallace State Office Building
Des Moines, IA 50319
(515) 281-4339

Pesticide Use Law Adm.
901 S. Kansas Avenue
Topeka, KS 66612-1281
(913) 296-2142

Division of Pesticide
Kentucky Department of Agriculture
7th Floor 500 Mero Street
Frankfort, KY 40601
(502) 564-7274

Louisiana Department of Agriculture Certification Programs
Box 44153, Capitol Station
Baton Rouge, LA 70804-4153
(504) 925-3796

Regulation Section
Maryland Department of Agriculture
Harry S. Truman Parkway 50
Annapolis, MD 21401
(410) 841-4134

Department of Food & Agriculture
Leverette Sandstall Bldg., 21st Floor
Govt. Center, 100 Cambridge St.
Boston, MA 02202
(617) 727-7712 ext. 128

Board of Pest Control
Licensing Specialist
Station 28
August, ME 04333
(207) 289-2731

Mgr. Pest Applicators
Pesticide & Plant Pest Mgmt. Division
Michigan Department of Agriculture
6110 West Ottawa
P.O. Box 30017
Lansing, MI 48909
(517) 373-1087

Pesticide Regulatory Specialist
Minnesota Department of Agriculture
90 W. Plato Blvd.
St. Paul, MN 55107
(612) 297-2746

Supervisor of Pest Control Section
Mississippi Department of Agriculture
P.O. Box 5207
Mississippi State, MS 39762
(601) 325-3390

Missouri Department of Agriculture
P.O. Box 630
Jefferson City, MO 65102-0630
(314) 751-2462

Montana Department of Agriculture Capitol Station
Helena, MT 59620-0201
(406) 444-2944

Nebraska Environmental Protection Agency
726 Minnesota Avenue
Kansas City, KS 66101
(913) 551-7020

Nevada Department of Agriculture
P.O. Box 11100
350 Capital Hill Avenue
Reno, NV 89510-1100
(702) 789-0180

Division of Pesticide Control
New Hampshire Department of Agriculture
Caller Box 2042
Concord, NH 03301
(603) 271-3550

New Jersey Bureau of Pesticide Op.
CN 411
Trenton, NJ 08645-0411
(609) 530-4134

Division of Pest Control
New Mexico Department of Agriculture
P.O. Box 3005, Dept. 3150
Las Cruces, MN 88003
(505) 646-3208

Pesticide Control Specialist
Dept. of Environmental Conservation
50 Wolf Road
Albany, NY 12233-42512
(518) 457-7482

North Carolina Department of Agriculture
P.O. Box 27647
Raleigh, NC 27611
(919) 733-3556

Pesticide Program Specialist
North Dakota State University
Extension Service
Fargo, ND 58105
(701) 237-7180

Control Specialist
Oklahoma Department of Agriculture
2800 North Lincoln Blvd.
Oklahoma City, OK 73015-4298
(405) 521-3864

Oregon Department of Agriculture
635 Capitol Street NE
Salem, OR 97310-0110
(503) 378-3776

Pennsylvania Department of Agriculture
2301 North Cameron Street
Harrisburg, PA 17110-9408
(717) 787-4843

Rhode Island division of Agriculture
William's Building
22 Hayes Street
Providence, RI 02908-5025
(401) 277-2781

South Carolina Department of Fertilizer & Pest Control
256 Poole Agricultural Center
Clemson University
Clemson, SC 29634-0394
(803) 656-3171

South Dakota Pesticide Program Supervisor
Anderson Bldg.
455 Pierre SD 57501-3188
(605) 773-3724

Tennessee Department of Agriculture
P.O. Box 40627
Melrose Station
Nashville, TN 37204
(615) 360-0130

Texas Department of Agriculture
Certification/Training Specialist
P.O. Box 12847
Austin, TX 78711
(512) 463-0013

Pesticide & Fertilizer Inspection
350 North Redwood Road
Salt Lake City, UT 84116
(801) 538-7100

Vermont Department of Agriculture
State Office Building
116 State Street
Montpelier, VT 05602
(802) 828-2431

Virginia Department of Agriculture
Office of Pesticide Regulations
P.O. Box 1163
Richmond, VA 23209
(804) 371-0152

Washington State Department of Agriculture
Certification and Training Coordinator
406 General Administration Building
Olympia, WA 98504-0641
(206) 753-5064

Cerification Coordinator
2100 Martin Luther King, Jr. Ave. S.E., Suite 203
Washington, DC
(202) 404-1167

West Virginia Department of Agriculture
Pesticide Division
Charleston, WV 25305
(304) 348-2209

Wisconsin Department of Agriculture
P.O. Box 8911
801 West Badger Road
Madison, WI 53708
(608) 266-9502

Wyoming Department of Agriculture
Agricultural Pest Control
2219 Carey Avenue
Cheyenne, WY 82002-0100
(307) 777-6590

SECTION 9.7 COMMENTARY (1994)

a. Like other areas of engineering maintenance, vegetation control has become complex. Since the days when section gangs grubbed weeds, and simple one-system cars applied diesel fuel, the field has become mechanized and the herbicides regulated by federal and state laws. The term "management" has been substituted for "control". Such a change implies a concept greater than that of prevention or removal. As yet, the possibility of farming rights-of-way remains untried and falls outside our current concerns.

b. To what extent can railroad employees still apply herbicides? Federal and state certification requirements differentiate between "commercial" and "private" (not for hire) applicators. In most areas the latter may still use general use pesticides on their own or their employer's property without passing state examination. Since only a few are restricted use products, most railroads make use of their own personnel for at least some of their granular or pellet applications. Other railroads have crews who are Certified Private Applicators in several states, and who can buy and apply restricted use products if necessary. It is probable that the list of states requiring all users to be certified and the list of restricted use herbicides will grow.

c. It will be increasingly important for railroad personnel to gain proficiency through contact with a number of sources. For example, the Weed Science Society is an excellent source of information about products. The Federal Environmental Protection Agency and its various state branches are the ultimate sources of the most up-to-date regulations, State and county departments of agriculture and county and university extension agents can also be good sources, especially for species identification, The National Railroad Contractors Association can provide a list of companies with specialized equipment and certified applicators. State and County Health Boards may have special ordinances affecting local usage and of course the manufacturers themselves can provide technical data regarding their own products.

March 2, 2005

Surface Transportation Board
Case Control Unit
Washington, DC 20423
Attention: Rini Ghosh
STB Docket No. FD 34284

RE: Amended comments regarding fence height
Draft EIS for Southwest Gulf Railroad Company construction and operation of a seven mile line of railroad in Medina County, Texas.

Dear Ms. Ghosh:

I was contacted by Thomas Ransdell, Vulcan Materials Company, on February 28, 2005 regarding comments Texas Parks and Wildlife Department (TPWD) provided to the Surface Transportation Board in a letter dated January 10, 2005 following a review of the Draft Environmental Impact Statement (DEIS) prepared to identify the impacts associated with the construction and operation of a seven mile line of railroad in Medina County, Texas. Based on information contained within the DEIS, TPWD recommended a wildlife exclusion fence, at least nine feet high, to prevent potential wildlife mortality caused by wildlife wandering onto the railroad tracks. Mr. Ransdell provided additional information that has resulted in TPWD amending that original recommendation.

Specifically, Mr. Ransdell has indicated that trains would be traveling at or less than 30 miles per hour (MPH). The Department concurs that the species of wildlife that would have been kept off the tracks by a nine foot tall fence (*i.e.*, deer) would under normal circumstances be able to avoid a train moving $\leq$30 MPH. Therefore, TPWD agree that a fence of standard height (approximately four feet) commonly used to contain livestock, would be suitable in the present project. A fence of this height would prevent livestock from wandering onto the tracks, yet allow deer to continue to move through the area as they can easily jump a four foot high fence.

TPWD does maintain the original recommendation that at least the bottom half of the fence should consist of fine mesh wire to prevent small animals (*e.g.*, Texas tortoise, a state-listed threatened species) from accessing and possibly becoming stranded on the tracks. It may be more cost effective for the entire fence to be constructed with a single mesh wire or woven wire with openings that are 1x1, 2x2, or 2x4 inches in size.

Also, as mentioned in the original response letter, project plans should incorporate wildlife crossings (under bridges or through culverts) wherever possible along the

4200 SMITH SCHOOL ROAD
AUSTIN, TEXAS 78744-3291
512-389-4800

www.tpwd.state.tx.us

proposed route. TPWD understands that these design features will be fully developed as project planning continues.

I appreciate your coordination on this project. If you have any questions regarding our amended comments, please contact me at (361) 825-3240.

Sincerely,

Russell Hooten

Russell Hooten
Wildlife Habitat Assessment Program
Wildlife Division

/rh

cc: Thomas Ransdell, Vulcan Materials Company

#EI-1488
RS

STEPTOE & JOHNSON LLP

ATTORNEYS AT LAW

David H. Coburn
202.429.8063
dcoburn@steptoe.com

1330 Connecticut Avenue, NW
Washington, DC 20036-1795
Tel 202.429.3000
Fax 202.429.3902
steptoe.com

June 6, 2005

VIA HAND DELIVERY

Ms. Victoria Rutson
Chief
Section of Environmental Analysis
Surface Transportation Board
1925 K Street, N.W.
Washington, D.C. 20423

Re: STB Finance Docket No. 34284, Southwest Gulf Railroad Company – Construction and Operation Exemption – Medina County, TX

Dear Ms. Rutson:

This letter supplements the April 4, 2005 response of Southwest Gulf Railroad ("SGR") to your February 15, 2005 letter, in which you inquired as to the feasibility of SGR building its proposed line east or west of the Quihi area. As set forth in SGR's April 4 response, a westerly "bypass" around Quihi would likely give rise to several issues concerning impacts to historic resources because such an alignment would traverse the New Fountain area. Further, such a bypass would raise stream crossing issues.

SGR's April 4 letter, as well as a May 4, 2004 letter, also addressed the problems with the so-called Medina Dam route, which would be located to the east of the Quihi area, following for a portion of its distance the alignment (no longer physically obvious from any ground features) used by an early twentieth century railroad that was built in order to facilitate the construction of the Medina Dam. These problems include grade and curvature issues. Any such Medina Dam route would require a substantial volume of cut and fill relative to the preferred route SGR has proposed and the alternative routes under review.

SGR has now reviewed the possibility of an eastern "bypass" route that would traverse an area that lies between Alignment 3 (the most easterly of the SGR-proposed alignments considered in the DEIS) and portions of the Medina Dam route, connecting at its south end to the UP line at the same point as SGR's preferred route and terminating at the north end at the planned Vulcan quarry. This

route would be approximately 1.6 miles east of Alternative 3 at the point that Alternative 3 is nearest to the Quihi area. The location of the route would be guided by several factors, notably the need to intersect with the UP line at the same point as the preferred SGR alignment (in order to attain the benefits of that point of intersection, which are outlined below), the need to serve the quarry, the need to exit the escarpment on which the route would necessarily be built in part at a point where required grades of no greater than 1% could be attained with a minimum of cut and fill (as described further below) and the need to cross FM 2676 at a point where highway sight distance can be maximized.

It bears note that the UP line is oriented toward the southeast at the proposed connection point between the preferred SGR route and the UP line. As one proceeds east, the UP line continues to angle toward the southeast, crosses to the south side of U.S. 90 and, at a point shortly after crossing U.S. 90, angles more sharply to the south/southeast. As a result, any connection point with the UP line further east of that contemplated by SGR's preferred alignment (which is the same connection point assumed here for purposes of analysis of any eastern bypass), would require that the SGR line be longer in order to meet the UP line, which continues to angle away from the quarry area. Thus, were the connection point for an eastern route one mile due east of the preferred route's connection point, the SGR line would have to be at least one mile longer (and probably closer to 1.25 miles longer) in order to meet the UP line.

A more easterly connection point would also require an expensive and otherwise unnecessary grade-separated crossing of U.S. Highway 90, which is south of the UP line at the proposed connection point, but as noted is on north side of the UP line as one moves just east of that connection point. Moreover, any connection point east of that assessed here would not resolve the escarpment issue discussed below or reduce the cut/fill volumes described here.

SGR has determined that no such eastern bypass route is feasible, and, therefore, believes that further environmental analysis of any such route is not warranted. The key reason is the amount of cut/fill that would be required for the construction of such a route. That impact and certain other impacts of such a route are described next.

1. **Cut and Fill Impacts**. The southern end of three of the SGR proposed alignments addressed in the DEIS (the preferred alignment and alternatives 2 and 3) are located on an escarpment. This is the same escarpment, described in SGR's April 4, 2005 and May 4, 2004 letters, that the Medina Dam route would traverse. The preferred alignment and alignments 2 and 3 each exit the escarpment at points which are a relatively short distance north of each alignment's southern terminus point. At each of these points of exit, the escarpment is largely eroded. Thus, none of these alignments gives rise to significant grade issues and none requires extensive cut/fill. However, the escarpment becomes higher and steeper as one traverses to the north. Thus, alignment 3 – the farthest east of the alignments under review in the DEIS – would require considerably more fill than the other alternatives since it exits the escarpment at a more northerly point, where the escarpment is steeper.

Were the alignment located further east of Alignment 3 and therefore further distant from the Quihi area, any such routing would require that the line remain on the escarpment for a longer length as

one travels from the southern terminus point to the north. Since, as noted, the escarpment becomes higher and steeper as one travels north, determining the point of exit from the escarpment for any easterly bypass requires careful assessment in order to locate a point as optimal as possible in terms of grade and cut/fill considerations.

In assessing an eastern routing other than the Medina Dam route, SGR located what it believes is an optimal (relative to other choices) point of exit from the escarpment. This is a point approximately equidistant between the points where Alignment 3 and the Medina Dam route would exit the escarpment. SGR then determined the amount of cut/fill that would be needed were the rail route to follow this approximate alignment. That cut/fill analysis was predicated on maintaining a grade of no more than 1%, consistent with the operational criteria used by SGR in the planning process and consistent with the safe operation of large unit trains. The methodology used in this analysis was the same as that described at page 6 of SGR's April 5 letter.

The results of that cut/fill analysis are shown in the attached Exhibit. As you will see, the amount of cut needed to use this eastern bypass route is quite significant, approximately 336,000 cubic yards, compared to about 167,000 cubic yards for the preferred alignment and lesser amounts for the other alignments that SGR has proposed. Further, approximately 445,000 cubic yards of fill would be needed, over four times the amount needed for the preferred alignment. Based on this degree of cut and fill, SGR has determined that the line is not feasible relative to the other alternatives assessed in the DEIS.

As noted, SGR assessed what it believes would be an optimal eastern bypass route in terms of cut/fill considerations. Thus, any other such route would necessarily require even more cut/fill volumes. The attached exhibit also shows the volume of cut/fill for the Medina Dam alternative, which too is an eastern bypass around Quihi. As can be seen from that Exhibit, the cut/fill volume for that route is greater than the eastern bypass discussed here.

2. **Length/Cost of Route**. SGR estimates that any more eastern "bypass" alignment, including any alignment that exited the escarpment at the point described above, would be about 1.6 miles longer than the preferred or alternative alignments considered in the DEIS, assuming that the eastern alignment connects to the UP line at the same point as the preferred route. This is because any such alignment would necessarily have greater circuity as compared to the relatively straight alignments between the UP line and the quarry previously proposed by SGR and considered in the DEIS. Impacts to the area would accordingly be greater given that the length of the line would be greater. Construction and operating costs would likewise be significantly greater. Construction costs would be at least $1.6 to $2 million higher, and this estimate is conservative given the rapidly increasing cost of rail.

The length of the line also would be longer, and the cost of construction commensurately higher, relative to the preferred alignment and other alternatives proposed by SGR, were an eastern bypass to connect to the UP line at a point further east than the optimal connection point described above. As discussed above, a connection further east of that at which the preferred line would connect would be longer due to the fact that the UP line angles to the south/southeast as one proceeds east.

3. **Impacts on Property/Land Use/Highway Crossing Safety**. Given its greater length, SGR estimates that any eastern alignment would traverse approximately 50% more parcels of land than the preferred route. Accordingly, any such routing likely would impact more landowners, contrary to one of SGR's design goals, including (it appears likely) landowners who have expressed opposition to any rail line in the area.

An eastern bypass alignment also would be much more likely for virtually its entire length to cut through many of these properties on a diagonal routing across the properties; a routing that would be more likely to interfere with the agricultural use of the properties. That is because the easterly bypass alignment discussed here would of necessity traverse diagonally from the southern terminus point in a northeastly direction in order to angle away from the Quihi area, which is generally north of the southern terminus. The line might follow parallel to the Medina Dam route for some length but would, at its approximate mid-point, angle diagonally toward the northwest to the point of exit from the escarpment in order to reach the quarry, forming a rough semicircle. The line would thus be routed in a diagonal manner as opposed to a straighter north-south routing preferred by SGR. Also factoring in to the diagonal nature of the easterly line is the fact that the line would need to cross FM 2676 at a point where there is adequate sight distance for vehicles. The need to cross FM 2676 at a straightaway point in that road limits the number of potential crossing points.

The diagonal nature of the line would very likely cause more disruption to land use in the area, bisecting agricultural fields and rangeland in a manner that would increase adverse impacts and making it more difficult, if not impossible, to follow the generally north-south oriented property boundaries in the area. By contrast, the straighter preferred alignment was carefully designed not only to minimize the number of parcels to be crossed, but also to cross those parcels as close as possible to, and parallel with, property boundaries. Thus, impacts of the proposed route on property usage would be reduced relative to the eastern bypass setting, in which the line would bisect or cut through properties diagonally.

Also, the preferred alignment (and alternatives 1,2, and 3) each cross FM 2676 at a point that is further west than the easterly bypass crossing discussed here. The preferred route's crossing point offers greater sight distance for vehicles given that the point of crossing by the preferred route is approximately at the middle point of a longer straightaway (about 1.5 miles long) on FM 2676 than the straightaway (about 1 mile long) at which the eastern route would cross. Thus, cars crossing the line at the point contemplated by the preferred alignment would have about one quarter mile greater visibility of the point of crossing coming from either direction along FM 2676.

4. **Impacts on Residences**. Based on aerial view assessments, it appears that any eastern bypass routing would impact approximately the same number of residences as the DEIS reports (at page 4-62) would be found within about one half mile and one mile from Alternative 3. Thus, it does not appear that the eastern bypass route addressed here would have any noise impact advantages relative to the other routes assessed in the DEIS.

In sum, the eastern routing discussed here is neither feasible nor preferable to the routes considered in the DEIS for the reasons described above. SGR would be pleased to respond to any questions that SEA might have concerning the above.

Respectfully,

David H. Coburn
Attorney for Southwest Gulf Railroad Company

cc: Ms. Rini Ghosh
Ms. Jaya Zyman-Ponebshek

EXHIBIT

SGR RAIL PROJECT

Cut and Fill Data for Alternative Routes

(assumes stopping fill at flood plain and using trestles to cross steams)

Route	Maximum Elevation of Route	Minimum Elevation of Route	Average of Elevation of Route	Cut in Cu Yds	Fill in Cu Yds
Proposed Alignment	991.83	859.38	913.99	167,683	101,973
Alternative Alignment #1	931.51	819.93	868.89	22,456	187,430
Alternative Alignment #2	934.70	857.51	895.08	69,562	123,775
Alternative Alignment #3	979.82	865.86	918.71	109,882	425,865
"Eastern Bypass"	1,029.79	888.85	967.23	336,566	445,533
"Medina Dam Route" (assumes deviations previously described by SGR)	1,056.18	908.30	983.81	729,778	928,248

#EI-1545
RG

STEPTOE & JOHNSON LLP

ATTORNEYS AT LAW

David H. Coburn
202.429.8063
dcoburn@steptoe.com

1330 Connecticut Avenue, NW
Washington, DC 20036-1795
Tel 202.429.3000
Fax 202.429.3902
steptoe.com

June 17, 2005

VIA HAND DELIVERY

Ms. Victoria Rutson
Chief
Section of Environmental Analysis
Surface Transportation Board
1925 K Street, N.W.
Washington, D.C. 20423

Re: STB Finance Docket No. 34284, Southwest Gulf Railroad Company – Construction and Operation Exemption – Medina County, TX

Dear Ms. Rutson:

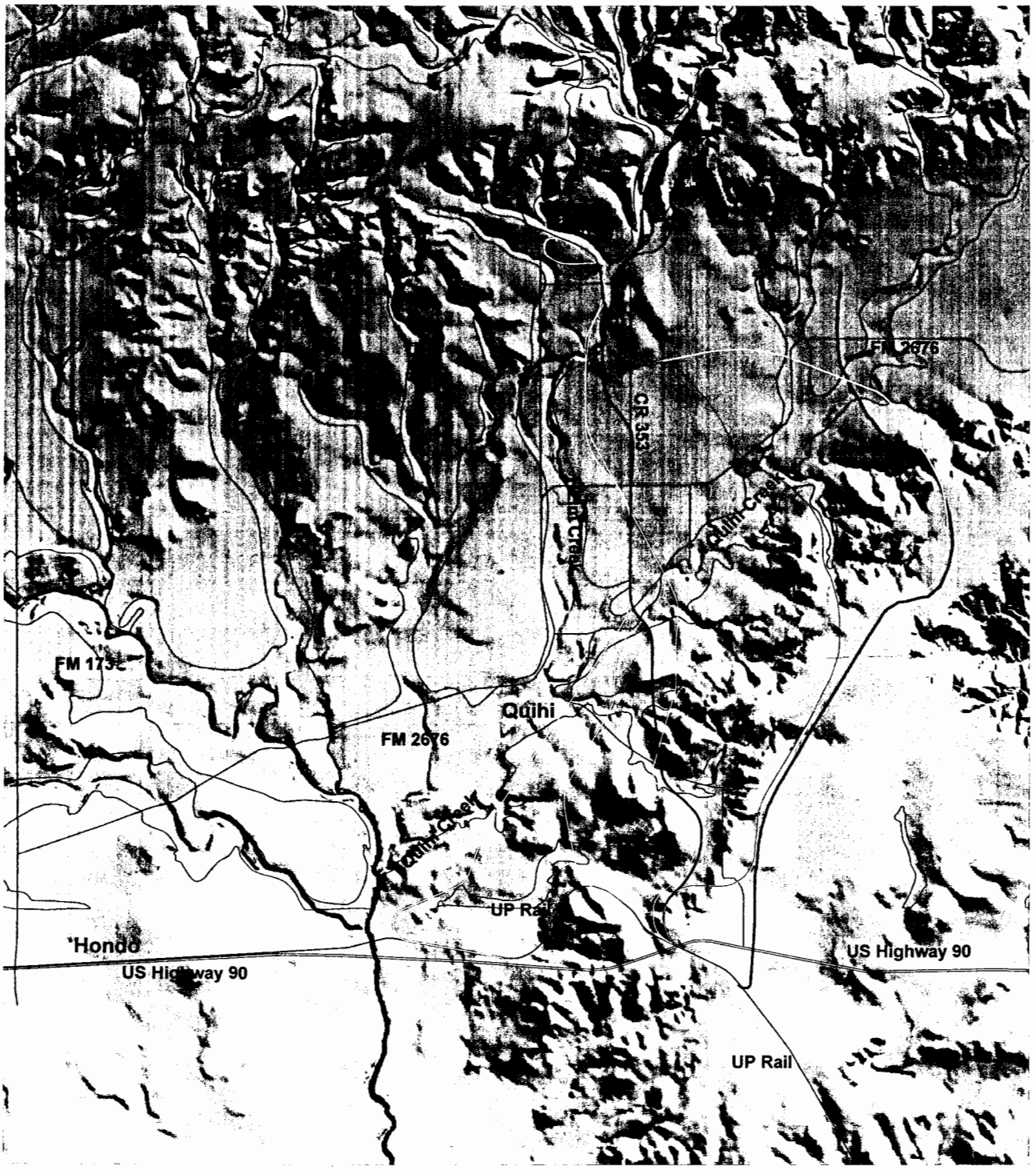
On June 6, 2005, we submitted a letter to your office describing a so-called "eastern bypass" alignment for the SGR line. I have attached to this letter a map that depicts the corridor for this eastern alignment that was analyzed in our prior letter. This corridor is depicted in orange on this map and described as "SGR Eastern Route." Please note that the depiction of this eastern route corridor does not reflect the level of engineering and other work that would be necessary to define each element of this alignment with precision.

Respectfully,

David H. Coburn
Attorney for Southwest Gulf Railroad Company

cc: Ms. Rini Ghosh
Ms. Jaya Zyman-Ponebshek

Southwest Gulf Railroad Company: Medina County, Texas Project



Magenta	Colored Line	- SGR Proposed Route
Red	Colored Line	- Old Medina Lake Dam Rail Route
Blue	Colored Lines	- FEMA Flood Plain

Original of map submitted as 11x17 inch size and in color. Please contact the Section of Environmental Analysis to view a color copy.

#EO-212
RH

SURFACE TRANSPORTATION BOARD

Washington, DC 20423

Office of Economics, Environmental Analysis, and Administration

July 8, 2005

Mr. David Coburn, Esq.
Steptoe & Johnson, LLP
1330 Connecticut Avenue, NW
Washington, DC 20036-1795

Re: STB Finance Docket 34284, Southwest Gulf Railroad Company Construction and Operation Exemption – Medina County, TX: **Request for Information**

Dear Mr. Coburn:

As you know, the Section of Environmental Analysis (SEA) is in the process of reviewing and responding to comments we have received on the Draft Environmental Impact Statement (Draft EIS) for Southwest Gulf Railroad Company's (SGR) proposed rail line construction and operation, issued on November 5, 2004. We appreciate your April 4, 2005 response to our information request, dated February 15, 2005, and your supplemental letter of June 6, 2005. The information you have provided about your proposed rail line construction project has assisted SEA in being as responsive as possible to the comments raised.

Following our careful review of both the comments and your letters, we have some follow-up questions. Consequently, if you could provide the information requested below, I believe that our efforts in drafting thorough and comprehensive responses to the comments – particularly those questioning certain details of SGR's proposed rail line construction and operation, potential alternatives, and the proposed quarry operations – would be greatly facilitated. If any of the requested information is unavailable, please provide an explanation in your response.

Consideration of Alternative Rail Routes: SEA conducted an in-depth assessment of four rail alignments in the Draft EIS. In addition to information about the four alignments considered in depth, SGR has previously provided some information regarding two alignments that would be further to the east than the alignments considered in depth (SGR's Modified Medina Dam Route and the Eastern Bypass Route). Comments to the Draft EIS have suggested that there may be other rail alignments that may be environmentally preferable to the alignments considered in depth, and have specified a particular routing that they believe would be preferable (see #EI-1361 for the Medina County Environmental Action Association's (MCEAA) Modified Medina Dam Route).

Numbers 1-8 set forth information that SEA needs to determine the extent to which alignments, other than those assessed in depth in the Draft EIS, should be considered in the environmental review process. Please provide the requested information for all alternatives identified to date (i.e. the proposed route, Alternative 1, Alternative 2, Alternative 3, SGR's Modified Medina Dam Route, MCEAA's Modified Medina Dam Route, and the Eastern Bypass Route) to the extent available.

1. SEA recognizes that SGR may not have the detailed information requested in Numbers 2-8 for MCEAA's Modified Medina Dam Route, since information previously submitted by SGR did not provide the cut and fill numbers for this route, and this route has been proposed by MCEAA, not SGR. Therefore, if the information provided in response to Numbers 2-8 does not include information regarding MCEAA's Modified Medina Dam Route, SEA requests SGR to provide a discussion of SGR's assessment of this route in general terms.

2. Please provide the back up calculations that SGR used to support the cut and fill volumes provided in the April 4, 2005 and June 6, 2005 letters to SEA. Please include any drawings showing cross-sections with stationing, from which end areas would have been determined for use in calculating volumes.

3. Please provide the typical roadbed cross-section template SGR used in modeling the proposed roadbeds showing roadbed widths, side slopes, ditches, and berms. If more than one typical template was used, please provide all templates and the corresponding station limits along which the templates were applied to determine the cut and fill quantities. Please specify the type of material(s) that were used for the rail bed (soil, rock, etc).

4. Please provide any plans showing areas anticipated to be undercut along with the extent of undercutting to be done and the source material used to determine those areas requiring undercutting.

5. Please provide grade profiles of each of the alternative rail routes. The profiles should show the existing grade (ground elevations at the present time) and where SGR plans for the subgrade (roadbed elevation at the earth and sub-ballast interface) of the rail line to be (proposed construction grade). Please indicate on these profiles the locations where cut and fill would be needed.

6. Please provide one map with the following features: existing and proposed topography (using five foot contours and a 1:24000 scale map or larger (1 inch = 1000 feet scale is preferable); 100-year floodplain; streams; proposed alternatives; and limits of grading/disturbance. Each alternative rail route should be clearly marked and stationed, and contour lines clearly visible and legibly annotated. Please also provide the most recent aerial photograph (with map scale) showing the rail alignments.

7. Please provide the top of rail bed elevation at the point where the proposed track would leave the existing UP track and the proposed top of rail bed elevations for the track as it would enter the quarry, using the location of the assumed gate over the tracks as the entry point. Also, please provide the length of the rail for each alignment so that the average gradient change can be determined throughout each alignment. We note that SGR has previously provided information indicating that the proposed route and Alternative 2 would each be approximately seven miles in length, Alternative 1 would be nine miles in length, and Alternative 3 would be 7.5 miles in length.

8. In addition to the berms called for in the typical cross section requested in item 2, please provide information regarding the proposed location of any earthen berms that would be used for stormwater runoff or flood control and their height relative to the existing elevation at their points of construction along the various alignments.

Details Regarding Construction and Operation of SGR's Proposed Rail Line:
Numbers 9 – 22 raise specific questions regarding the construction and operation of SGR's proposed rail line. Please provide the requested information for all alternatives identified to date (i.e. the proposed route, Alternative 1, Alternative 2, Alternative 3, SGR's Modified Medina Dam Route, MCEAA's Modified Medina Dam Route, and the Eastern Bypass Route) to the extent available.

9. Has SGR developed more detailed engineering plans regarding the proposed stream crossings for the various alternative rail routes, such as the location and design of bridges and culverts for each crossing? If so, please provide this information as well as the existing 100-year water surface elevations for all crossings.

10. Comments have indicated concern regarding the potential for rail operations to block emergency evacuation routes during flooding events. If SGR has developed any plans to address these concerns, please provide this information.

11. Please provide copies of any written correspondence from Duke Energy and Koch Pipeline regarding the pipeline crossings. Please provide the width of the Duke Energy pipeline. Does SGR have any additional information on the allegedly ruptured pipeline discussed on Page 3-3 of the Draft EIS?

12. Does SGR have any information on the location of existing water lines, sewer lines, and electrical utility lines potentially crossed by each alternative?

13. Has a Spill Containment and Countermeasures Plan (SPCC) been developed for the proposed rail line or the fueling and maintenance area? If so, please provide a copy of the SPCC Plan. As indicated in the comments of the U.S. Environmental Protection Agency (#EI-1313), any SPCC Plan should include a map showing recharge features in the Edwards Aquifer Recharge Zone (EARZ) in the vicinity

of the proposed rail line, and indicate measures to protect groundwater from contamination through those features.

14. In the Draft EIS, SEA recommended mitigation that would require SGR to utilize Best Management Practices to minimize the impacts of construction and operation to groundwater and surface water resources. Comments have requested specific information regarding the Best Management Practices that would be taken. If SGR has developed specific measures and Best Management Practices that would be taken to minimize impacts to groundwater and surface water resources, particularly for operations on and off the EARZ, please provide this information.

15. Please provide more detailed information on how the planned fueling facility would operate (e.g. storage and management of fuel, the thickness of the confining layer in the area, and safeguards against drainage of spills onto the recharge zone).

16. Based on oral representations from SGR, SEA has assumed that SGR's rail operations would take place during daytime hours (7 a.m. to 10 p.m.) for the purposes of SEA's noise analysis in the Draft EIS. Please verify that these operations would take place during daytime hours.

17. Would the water that SGR plans to use for construction, operation, and maintenance activities be obtained from local or other sources? Are there any applicable water appropriations requirements?

18. Please provide a description of how the proposed rail loading operations would take place at the rail loading track on the quarry site.

19. Has SGR determined whether the rail loading track on the quarry site would be a series of straight parallel tracks or a loop?

20. Would construction activities for the proposed rail loading track differ from construction activities for the construction of the rest of the rail line? If so, please describe how.

21. Please provide information regarding the number of private roadways and driveway crossings for each alignment and whether SGR has developed specific plans for these crossings.

22. Additional information regarding the proposed rail operations would be helpful in responding to comments. Commenters have requested the following information:

    - How long would loaded rail cars stand idle? How many cars would accumulate before shipment? Maximum number? Where would these unattended, loaded cars be parked? How would dust

be controlled in this area? Would the diesel locomotives be idling during loading? If so, for how long?

- If SGR plans to operate trains at speeds ranging from 12 to 25 miles per hour, why does the track design need to accommodate speeds of 40 miles per hour? If SGR could use speeds of 12 miles per hour going up one-degree grades, why could not speeds of 12 miles per hour be used to round curves?

- How long would a train sit on the rail line waiting to be transferred to the Union Pacific Railroad Company (UP) rail line? How would operations be coordinated with UP? Would cars be marshaled? How many trains would be on the rail line at one time?

- How would SGR connect to and move trains to and from the UP line? Would SGR move directly from the quarry to the main line without pausing? What would be the average speed of the train entering or exiting the quarry at County Road 353? What would be the estimated speed of the train entering or exiting the UP line? How much time would be required for a loaded train to accelerate from rest to 20 miles per hour? What would be the average speed of the train as it crosses County Road 353 from the quarry? What would be the days and hours of the train movements? Would UP's "Fall peak" period affect the quarry movements?

- Would crossings near the loading area experience very slow or stopped cars?

Trucks: Numbers 23-24 refer to the use of trucks being analyzed by SEA as part of the "no action" alternative.

23. How long would it take to construct the truck-to-rail remote loading facility proposed as part of trucking operations if SGR's rail line were not built? How many workers would be needed for the construction and operation of this facility?

24. SEA has assumed that the truck traffic to local markets, assessed as part of SEA's analysis of cumulative noise impacts in the Draft EIS, would take place during daytime hours (7 a.m. to 10 p.m.). Please verify that this is correct.

Proposed Quarry: Numbers 25 – 31 refer to specific questions that have been raised regarding VCM's proposed quarry, which SEA is assessing, at a minimum, as part of the cumulative impacts analysis.

25. In a letter dated February 15, 2005, you submitted information regarding several permitting processes for Vulcan Construction Materials, LP's (VCM) new quarry.

You stated that VCM had received an air quality permit for a temporary rock crusher from the Texas Commission on Environmental Quality (TCEQ), was in the process of applying for a water pollution abatement plan (WPAP) from TCEQ, and would be applying for a storm water permit from TCEQ. Please provide an update on the permitting processes for the quarry.

26. According to information provided by the Medina County Floodplain Administrator, Medina County's floodplain permitting process follows the requirements of the Federal Emergency Management Agency's National Flood Insurance Program, set forth at 44 CFR 60.3, which was developed to implement the National Flood Insurance Act of 1968, as amended, and the Flood Disaster Protection Act of 1973, as amended, 42 U.S.C. 4001 *et. seq*. Has VCM begun consultation with the Floodplain Administrator to determine whether a floodplain permit would be required for the quarry? According to our review of the applicable regulations and a recent telephone conversation with the Floodplain Administrator, it appears that the Floodplain Administrator would need to make a determination that no permit is needed or would need to issue a permit prior to VCM beginning construction activities at the quarry.

27. Please provide a georeferenced digital map of the footprint of the quarry as well as a drainage plan for the quarry. This plan should show how flows that would enter the pit would be diverted, and where these diverted flows would be discharged downstream or adjacent to the quarry. Please provide the design capacities of the diversion structures.

28. Please provide specific information about blasting activities at the quarry, including the approximate frequency and duration of blasting activities. This should include information about how blasting activities would be regulated and information about the distances at which blasting effects could affect sensitive structures (e.g. historic structures, wells). Please provide any information about the specific location of sensitive structures in relation to the quarry site. Any methodology used or information provided should be clearly explained and referenced.

29. Will the quarry be dewatered during mining operations? If so, how will stormwater and wastewater be treated? Please provide an update on the WPAP application process. Also, please provide all technical reports and supporting documents and maps used for the WPAP application, as well as agency and consultant contact information.

30. SEA's analysis of cumulative transportation and traffic safety impacts in the Draft EIS estimated that about 100 quarry employee cars would use roadways in the project area each workday, based on information provided by SGR. Please verify that this is correct.

31. Please provide information on the purpose and design of the proposed buffer zones around the quarry site.

We thank you in advance for your cooperation and your response to this information request. SEA also encourages the submission of any additional information SGR may have that is responsive to the comments received on the Draft EIS or any new voluntary mitigation measures SGR may be developing to address the concerns raised by commenters. If you need additional information or have any questions, please do not hesitate to contact me or Rini Ghosh of my staff at (202)565-1539.

Sincerely,

Victoria Rutson
Chief
Section of Environmental Analysis

STEPTOE & JOHNSON LLP
ATTORNEYS AT LAW

David H. Coburn
202.429.8063
dcoburn@steptoe.com

1330 Connecticut Avenue, NW
Washington, DC 20036-1795
Tel 202.429.3000
Fax 202.429.3902
steptoe.com

September 7, 2005

VIA HAND DELIVERY

Ms. Victoria Rutson
Chief
Section of Environmental Analysis
Surface Transportation Board
1925 K Street, N.W.
Washington, D.C. 20423

Re: STB Finance Docket No. 34284, Southwest Gulf Railroad Company – Construction and Operation Exemption – Medina County, TX

Dear Ms. Rutson:

This will respond to your July 8, 2005 letter posing a series of questions to applicant Southwest Gulf Railroad ("SGR") in connection with the environmental review of SGR's proposed rail line.

1. SEA recognizes that SGR may not have the detailed information requested in Numbers 2-8 for MCEAA's Modified Medina Dam Route, since information previously submitted by SGR did not provide the cut and fill numbers for this route, and this route has been proposed by MCEAA, not SGR. Therefore, if the information provided in response to Numbers 2-8 does not include information regarding MCEAA's Modified Medina Dam Route, SEA requests SGR to provide a discussion of SGR's assessment of this route in general terms.

This question correctly assumes that SGR does not have any detailed information concerning "MCEAA's Modified Medina Dam Route." Nonetheless, SGR can offer the following observations. MCEAA submitted a map with alternative routes to SEA on January 9, 2005 as part of its comments on the Draft EIS. MCEAA's map set forth two "eastern" routes, one with an orientation that is further east and more faithful to at least a portion of the route followed by the early twentieth century Medina Dam rail line than the other. This more eastern of the two routes is described as the "Medina Dam route" and is generally similar (but not identical) to the modified Medina Dam route described by SGR in its June

6, 2005 submission to SEA.

The more westerly of the two MCEAA routes, described by MCEAA as the "Medina Dam Alternative" is generally similar (but not identical) to the "Eastern Route" route that SGR has described in its June 6, 2005 submission to SEA. In that regard, we note that MCEAA's Alternative Medina Dam route exits the escarpment (on which these routes commence at their southern terminus) at about the same point as SGR's Eastern Route. From the point of exit of the escarpment traveling north, MCEAA's route follows a more northerly and then westerly orientation than does SGR's Eastern Route, which by contrast follows a generally shorter (northwesterly) orientation from the point of exit from the escarpment to the quarry.

MCEAA has not explained the criteria that it used to arrive at either of its routes or how the routes would traverse the flood plain areas, and has not provided cut/fill data relevant to either of its proposed routes. SGR does not have such information, but given the general similarity described above between the MCEAA alternatives and the comparable Medina Dam and Eastern Routes described by SGR, SGR believes that the cut/fill data relative to the MCEAA routes would be generally similar to those of the respective comparable routes described by SGR. Thus, the MCEAA Medina Dam route could be expected to cause the largest volume of cut/fill, while the MCEAA Medina Dam Alternative (like the Eastern Route has SGR has described) would result in somewhat less cut/fill, but still significantly more than any of the alternatives previously proposed by and analyzed in the Draft EIS.

As SGR has explained previously, there are several reasons why the Eastern Route is less attractive, and indeed suffers from substantial infirmities, in comparison to any of the routes considered in the Draft EIS. These are as follows:

(1) Following the receipt of SEA's July 8 letter, SGR reviewed the estimated cut/fill volumes for each of the routes for which SGR had previously supplied estimates with its June 6, 2005 letter to SEA. In its initial presentation of cut/fill data in that 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). Accordingly, cut volumes have been recalculated based on this revised assumption. See Exhibit 1 to this letter, which shows the previously estimated cut/fill volumes in cubic yards, the revised cut/fill volumes in cubic yards, and the differences between the previous and revised estimates for the cut volumes for each alignment discussed in the Draft EIS and for the Eastern and Modified Medina Dam Routes. These revised calculations were based in part upon a typical roadbed cross-section template as shown in accompanying Exhibit 2. The fill calculations previously presented by SGR (which assume stopping fill at the flood plain and using

trestles to cross streams) were not affected by this change in the underlying slope assumption for cut areas as no revision was deemed warranted to the 2:1 (26.5°) slope assumed for the fill calculations.[1]

As shown in Exhibit 1, for each of the alignments the estimated cut volume has increased as a result of the change in slope stability assumptions used in the cut calculations, i.e., the assumed wider cut areas result in a higher volume of cut material. The differences between the previous and revised cut estimates are greater for the Eastern and Medina Dam 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. Accordingly, the revisions to the cut/fill data presented here do not alter SGR's original conclusion that the Eastern Route and the Medina Dam Route would entail much more cut/fill than the Proposed Route and the three other alternatives assessed in the Draft EIS, rendering the eastern routes less attractive. As Exhibit 1 shows, the cut volumes for the Proposed Route would approximate 317,000 cubic yards compared to 834,000 cubic yards for the Eastern Route. The fill volume for the Proposed Route is estimated to be 102,000 cubic yards compared to a much greater 446,000 cubic yards for the Eastern Route. Increased cut and fill volume will necessarily result in more adverse impacts to the area from a visual/aesthetic standpoint. It will also result in more land use impacts because more land surface will be disturbed during construction and as a result of the embankments that will be needed for the right-of-way. Greater disruption to agricultural and other land uses in the area can thus be expected. Were reduced slope criteria employed in place of the criteria assumed here, the land use impacts would be even greater due to the resulting larger footprint of the right-of-way.

As SGR has discussed above and in previous correspondence, one of the key disadvantages of shifting the alignment to the east is the need to traverse steeper grades, requiring significantly more cut and fill, as well as higher operational costs for SGR to the extent that either of the eastern routes will have somewhat steeper grades than the generally flatter Proposed Route even after the described significant cut and fill work is completed . In this regard, it bears note that the SGR line will be used to transport unit trains that will often consist of approximately 100 loaded cars up the escarpment from the quarry to the UP line. To accommodate these trains, the line will have to meet the grade (no more than 1%) and curve criteria that SGR has previously described. See design criteria spelled out in TRAX Report, reprinted at page G-20 of the DEIS. By contrast, the early twentieth century railroad that was built to facilitate the construction of the Medina Dam was designed to carry construction materials only downhill off the escarpment to the Dam site and to return empty cars. The engineering considerations for that railroad were drastically different than those that would confront SGR with respect to transporting much longer and heavier loaded unit trains up the escarpment.

(2) The Eastern Route is considerably longer (about 1.5 miles) than the Proposed Route -- 9.01 miles versus 7.5 miles. It is also longer than alternatives 2 (7.23) and 3 (7.9). The increased

[1] SGR is of course aware of proposed mitigation measure 32 in the Draft EIS, which contemplates that graded embankments in wetlands areas will not exceed a 4:1 slope. SGR has previously commented on this measure, suggesting that it retain the flexibility to use a modified slope in wetlands areas upon consultations with the Texas Department of Parks and Wildlife.

length means a longer construction period, substantially greater cost, greater noise and air quality impacts, more fuel usage, less efficient operations, and additional land use and visual impacts. Alternatives 1 (10.6 miles) and the Medina Dam route suffer from the same infirmity (11.24 miles).[2] See attached Exhibit 3, which shows the length of the Proposed Route and each alternative.

(3) Based on its review of relevant land ownership records, SGR has determined that the Eastern Route will traverse at least 17 separate properties. In contrast, the Proposed Route would traverse 10 properties. Some of the 17 property owners are persons who have signed a covenant in which they have agreed with others not to sell property to SGR, evidencing that their would be opposition to any Eastern Route by persons in the area of that Route. Further, the Eastern Route will also traverse a subdivision under development known as Castroville West, which is identified on the USGS map attached as Exhibit 4 and the FEMA floodplain map attached as Exhibit 5. According to public plat records that SGR has reviewed and that are available at the Medina County Courthouse, approximately 20 separate tracts of land have been surveyed and sold in this subdivision and 13 to 15 homes have been constructed and are presently occupied in that subdivision. (SGR would be pleased to supply a copy of these records should SEA be interested in reviewing them.)

(4) The Eastern Route traverses significantly more prime, irrigated farmland which lies between stations 130 + 00 and 220 + 00, as shown on the maps of that route which are attached as part of the booklet of maps and materials which constitute Exhibit 6 to this letter.

(5) The Eastern Route crosses one more county road than the Proposed Route(CR 4643) and several private roads and driveways. The number of private roads and driveways is not known because of access limitations but a review of aerial photographs reveals at least four and possibly five. Further, the Eastern Route crosses FM 2676 (the most heavily traveled road crossed) at a less optimal place than the proposed route. Specifically, there is a shorter sight line for drivers approaching the crossing than in the case of the proposed alignment.

(6) The Eastern Route has a generally diagonal alignment whereas property boundaries in the area are generally north/south and east/west oriented. Thus, the Eastern Route is much more likely to disrupt land use, including prime farmland, because it will cut directly through many properties. This is in contrast to the proposed route, which was carefully aligned to traverse along property boundaries as much as possible and thus not disrupt land use.

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[2] In its June 6, 2005 letter to SEA, SGR stated that the Eastern Route was approximately 1.6 miles longer than the proposed or alternative routes considered in the DEIS. That statement should have noted that Alternative 1 (which SEA has tentatively determined in the Draft EIS suffers from several infirmities) is in fact longer than the Eastern Route. The data provided here offers a more precise view of the length of each alternative, reflecting further analysis undertaken by SGR. SGR does not favor either Alternative 1 or the Eastern Route due in part to their length and associated higher operating costs and greater impacts.

(7) The Eastern Route will also have cultural resources impacts. In a report that SGR will submit to SEA under separate cover, SGR's cultural resources consultant identifies several historic structures in or adjacent to the APE of the Eastern Route. Further, there are also areas along the Eastern Route where there is a heightened likelihood of archeological sites.

(8) The Eastern Route, which would cross Quihi Creek at a wider point on the Creek and thus cross more floodplain, sacrifices the benefits of crossing Quihi Creek at the narrow point at which it would be crossed by the Proposed Route. The Proposed Route's would cross the Creek at a point of minimal flow, upstream from a point where the Creek intersects with other creeks. SGR has previously described the advantages of the crossing at the point in its August 4, 2003 letter to SEA. Further, in the DEIS, SEA concluded "that there would be fewer impacts to wetlands from the Proposed Route than the other rail alternatives" that were assessed in the DEIS.

2. **Please provide the back up calculations that SGR used to support the cut and fill volumes provided in the April 4, 2005 and June 6, 2005 letters to SEA. Please include any drawings showing cross-sections with stationing, from which end areas would have been determined for use in calculating volumes.**

The methodology used to determine cut and fill volumes previously reported by SGR was described at page 6 of SGR's April 4, 2005 letter to SEA. As noted in that letter, the cut/fill volumes reported by SGR are based on preliminary engineering data, as final engineering will not been undertaken until a route has been approved by the STB. While actual cut/fill volumes may thus be somewhat different from those reported by SGR, the data offered by SGR nonetheless was based on a sophisticated modeling technique and provides a sound basis for comparing the cut/fill volumes as between the different routes under consideration. It should be noted, however, that these data are subject to refinement based on final engineering design.

SGR is prepared to provide SEA with a full set of the calculations underlying its cut/fill analyses and to work with SEA's contractor to set forth in detail how the analyses were done. Given that there is a huge volume of data underlying its calculations, SGR is (by pre-agreement with SEA staff) providing a sampling of such data for verification by SEA. See Exhibit 7 to this letter, which shows cut/fill data at specific stations drawn from SGR's analysis of the Proposed Route and sets forth a description of the process by which the cut/fill data was derived, using a civil engineering computer program.

3. **Please provide the typical roadbed cross-section template SGR used in modeling the proposed roadbeds showing roadbed widths, side slopes, ditches, and berms. If more than one typical template was used, please provide all templates and the corresponding station limits along which the templates were applied to determine the cut and fill quantities. Please specify the type of material(s) that were used for the rail bed (soil, rock, etc).**

In its preliminary engineering analysis of the Proposed Route and the alternatives, and in the absence of subgrade material data that will not be available until the final engineering stage, SGR

applied widely accepted engineering practices in assuming a suitable, consolidated formation, with sufficient bearing capacity for the intended tracks. SGR has utilized a typical cross-section of an industry track as a template for modeling the proposed roadbed. The cross section appears in Exhibit 2.

SGR intends to utilize crushed limestone base for the rail bed and a combination of trap rock and limestone aggregate for the ballast material.

4. **Please provide any plans showing areas anticipated to be undercut along with the extent of undercutting to be done and the source material used to determine those areas requiring undercutting.**

We understand this question to be inquiring about areas that SGR has identified that may need to be cut either for grading or other rail engineering purposes, i.e., due to any inadequacy of bearing capacity of the existing soil for supporting the rail bed and track. The profiles set forth on the USGS maps provided for each route in Exhibit 6 show those areas that SGR believes will require cutting for grade purposes. SGR does not have more detailed plans showing areas anticipated to be undercut and does not know the precise extent of any undercutting to be done. These are determinations that can only be made once final engineering is accomplished utilizing data from geotechnical studies. Such work will be undertaken only after a final route has been chosen at the end of the environmental review and STB exemption processes. At this stage of the regulatory process, SGR has presented the best information reasonably available to it based on preliminary engineering. It has done so, and will continue to do so, consistent with its obligations under NEPA so that SEA can make an informed assessment of impacts. However, for the reasons stated, the data requested by this question is simply not available at this time.

5. **Please provide grade profiles of each of the alternative rail routes. The profiles should show the existing grade (ground elevations at the present time) and where SGR plans for the sub grade (roadbed elevation at the earth and sub-ballast interface) of the rail line to be (proposed construction grade). Please indicate on these profiles the locations where cut and fill would be needed.**

See Exhibit 6, which includes aerial photos of each route, as well as USGS maps displaying each route. The USGS maps also set forth grade profiles for the Proposed Route and the alternatives considered in the Draft EIS, as well as for the Medina Dam route and the Eastern Route described by SGR. The charts attached to each set of maps/profiles in that Exhibit show the extent of the cut or fill that would be required at each station identified on the accompanying maps.

6. **Please provide one map with the following features: existing and proposed topography (using five foot contours and a 1:24000 scale map or larger (1 inch = 1000 feet scale is preferable); 100-year floodplain; streams; proposed alternatives; and limits of grading/disturbance. Each alternative rail route should be clearly marked and stationed, and contour lines clearly visible and legibly annotated. Please also provide the most recent**

aerial photograph (with map scale) showing the rail alignments.

See attached USGS map (Exhibit 4), which depicts the various alternative routes with 10 foot contours. SGR does not have a map that shows five foot contour information for "spot elevations." Also see attached map (Exhibit 5) which shows 100 year floodplains based on FEMA data. The floodplain data shown on Exhibit 5 is the only official data in the public domain available at this time.

7. **Please provide the top of rail bed elevation at the point where the proposed track would leave the existing UP track and the proposed top of rail bed elevations for the track as it would enter the quarry, using the location of the assumed gate over the tracks as the entry point. Also, please provide the length of the rail for each alignment so that the average gradient change can be determined throughout each alignment. We note that SGR has previously provided information indicating that the Proposed Route and Alternative 2 would each be approximately seven miles in length, Alternative 1 would be nine miles in length, and Alternative 3 would be 7.5 miles in length.**

See Exhibit 3, which shows the top of the rail bed elevation at the point of connection with the UP line and at the quarry entrance, as well as the length of the Proposed Route, the alternatives assessed in the Draft EIS, as well as the Eastern Route and the Medina Dam route.

8. **In addition to the berms called for in the typical cross section requested in item 2, please provide information regarding the proposed location of any earthen berms that would be used for storm water runoff or flood control and their height relative to the existing elevation at their points of construction along the various alignments.**

SGR does not have this information and will not have it until the final engineering stage for the route ultimately approved by STB and as to which SGR decides to build its rail line. However, SGR can state at this point that it will design its rail bed, and any earthen berms, using best practices so as to control erosion, storm water runoff and reduce any risk of flooding caused by the location of the rail line.

<u>Details Regarding Construction and Operation of SGR's Proposed Rail Line:</u>
Numbers 9-22 raise specific questions regarding the construction and operation of SGR's proposed rail line. Please provide the requested information for all alternatives identified to date (i.e. the proposed route, Alternative 1, Alternative 2, Alternative 3, SGR's Modified Medina Dam Route, MCEAA's Modified Medina Dam Route, and the Eastern Bypass Route) to the extent available.

9. **Has SGR developed more detailed engineering plans regarding the proposed stream crossings for the various alternative rail routes, such as the location and design of bridges and culverts for each crossing? If so, please provide this information as well as the existing 100-year water surface elevations for all crossings.**

SGR has not developed detailed engineering plans at this stage, and will not do so until a specific route is chosen. In all cases, however, SGR will use best practices to minimize the volume of fill in flood plain crossings and the placement of structures in the floodplain, to the extent possible. Please note, however, that SGR cannot commit to avoid placing fill or structures in the floodplains. Accordingly, the fact that SGR's preliminary cut/fill data provided to SEA assumes that fill would not be placed in floodplains reflects SGR's intentions, but should not be viewed as a commitment. Further, SGR notes that waterways (river, streams, creeks), wetlands and flood plains are regularly crossed by roadways and rail lines having properly designed structures which do not negatively impact the flow of water. SGR is proposing nothing exceptional relative to the type of good, standard engineering design and construction practices that have been in use for decades. To any extent that fill is placed in the floodplains, SGR commits that it would consult with, and seek appropriate permits from, the Corps of Engineers or any other agency that might have jurisdiction over the matter. See SGR Comments on the Draft EIS, submitted on January 10, 2005 at 3.

10. **Comments have indicated concern regarding the potential for rail operations to block emergency evacuation routes during flooding events. If SGR has developed any plans to address these concerns, please provide this information.**

SGR has not yet developed such plans and will not do so until a final route is chosen since the plans will be geared to the specific route. SGR is prepared, as a matter of voluntary mitigation, to develop emergency evacuation plans prior to constructing the railroad, following the completion of final engineering on whatever route is chosen for construction. SGR would include in its operational plans for the line language that requires the routine monitoring of weather reports and conditions so that it will be in a position to temporarily cease operations along the line as may be warranted by weather conditions. The plan will also provide that rail operations would not resume until any flooding has ceased and an inspection made of the rail line to ensure that it is safe to resume operations. Further, trains using the SGR line will not be parked so as to block emergency evacuation routes.

11. **Please provide copies of any written correspondence from Duke Energy and Koch Pipeline regarding the pipeline crossings. Please provide the width of the Duke Energy pipeline. Does SGR have any additional information on the allegedly ruptured pipeline discussed on Page 3-3 of the Draft EIS?**

The Proposed Route and alternatives considered in the Draft EIS cross two pipeline right of ways. The pipeline nearest the south end of the route (previously operated by Koch Pipeline) was removed in 2004. The pipeline right of way on the north end of the route, originally owned by Duke Energy has recently been sold to Texas Field Services ("TFS"). That pipeline right of way is 30 feet wide and the pipeline is 10" diameter. Prior to the sale, all contact with Duke Energy relating to this project had been verbal, and thus there is no correspondence that can be shared with SEA. In recent discussions with representatives of TFS, SGR has requested specifications for construction requirements for crossing the pipeline right of way with the rail line. SGR has been advised that such specifications are under development by TFS and will be supplied when they are completed. SGR does not have any information on the allegedly ruptured pipeline.

12. **Does SGR have any information on the location of existing water lines, sewer lines, and electrical utility lines potentially crossed by each alternative?**

SGR does not have any information on existing water, sewer or utility lines potentially crossed by each alternative. Such information would be gathered at the time of final engineering. SGR does not perceive any problems with crossing these utility lines. SGR is prepared to accept as voluntary mitigation a requirement that it work with local utilities, and review crossing protocols that may already be in place for each such utility, to ensure that its rail line does not interfere with the operation of any utility line that might be crossed.

13. **Has a Spill Containment and Countermeasures Plan (SPCC) been developed for the proposed rail line or the fueling and maintenance area? If so, please provide a copy of the SPCC Plan. As indicated in the comments of the U.S. Environmental Protection Agency (#EI-1313), any SPCC Plan should include a map showing recharge features in the Edwards Aquifer Recharge Zone (EARZ) in the vicinity of the proposed rail line, and indicate measures to protect groundwater from contamination through those features.**

An SPCC for the fueling and maintenance area has not yet been developed and will not be developed until the project moves into the final engineering stage. Once developed, the SPCC will address spill prevention and countermeasures to protect groundwater from contamination. The SPCC will be prepared and implemented in compliance with the EPA's regulations at 40 CFR Part 112, including the map requested by EPA in its comments noted above. Neither the rail line (except for the loading area near the quarry) nor the fueling/maintenance facility are located on the Edwards Aquifer Recharge Zone. See SGR September 2, 2003 letter to SEA and Exhibit 1 attached to that letter.

14. **In the Draft EIS, SEA recommended mitigation that would require SGR to utilize Best Management Practices to minimize the impacts of construction and operation to groundwater and surface water resources. Comments have requested specific information regarding the Best Management Practices that would be taken. If SGR has developed specific measures and Best Management Practices that would be taken to minimize impacts to groundwater and surface water resources, particularly for operations on and off the EARZ, please provide this information.**

SGR has not yet developed specific Best Management Practices ("BMPs") to minimize impacts to groundwater and surface water resources. These best practices will be developed as part of the storm water protection plan and permitting process, and can only be developed once final engineering has been completed on the approved rail line since the BMPs will take into account the specifics of the route to be constructed. When BMPs are developed, SGR will first assess the risks of contamination of groundwater and surface water resources to determine necessary controls and safeguards, as well as the actions to be taken if there is a spill. As the rail line (other than the loading loop in the vicinity of the quarry) will be south of the Edwards Aquifer Recharge Zone (EARZ) these BMPs will only deal with SGR's operations off of the EARZ. The Water Pollution Abatement Plan (WPAP) that will be submitted by Vulcan with respect to the quarry (see response to question 25, below) will address

practices to be undertaken on the EARZ. This application is currently in the process of being formulated.

15. **Please provide more detailed information on how the planned fueling facility would operate (e.g. storage and management of fuel, the thickness of the confining layer in the area, and safeguards against drainage of spills onto the recharge zone).**

As SGR has previously reported, the fuel maintenance area will not be located on the recharge zone. Above ground fuel and oil storage tanks will be utilized and located in concrete containments of adequate height, volume and thickness to prevent leakage into the ground should the tanks integrity be breached.

In addition, a Spill Prevention and Countermeasures Plan to be developed by SGR and Vulcan will address containment of fuel consistent with applicable regulations governing the storage of fuel, as discussed above. There will be fencing and/or other security measures for the containment area as required by the SPCC rules. The tanks will have fill gauges to prevent overfilling and procedures will be in place to clean up incidental spills. The WPAP permit that Vulcan will seek to obtain will address the BMPs to be applied and drainage matters.

16. **Based on oral representations from SGR, SEA has assumed that SGR's rail operations would take place during daytime hours (7 a.m. to 10 p.m.) for the purposes of SEA's noise analysis in the Draft EIS. Please verify that these operations would take place during daytime hours.**

SGR plans to operate its rail line during daytime hours (7 am to 10 pm) to the extent possible, and anticipates that most rail movements will take place during these hours. However, SGR is not prepared to represent that all rail movements will occur during these hours. In that regard, SGR has determined that there may be times when, to satisfy the operational needs of the Class I railroads and Vulcan's customer needs, including any emergency needs, trains may need to move over the SGR line during nighttime hours. SGR cannot at this point quantify the number or percent of train operations that may be conducted during nighttime hours

17. **Would the water that SGR plans to use for construction, operation, and maintenance activities be obtained from local or other sources? Are there any applicable water appropriations requirements?**

SGR will obtain water for construction, operation and maintenance from the most economical and environmentally safe source. This could be from local water authorities or private land owners. Also, Vulcan owns Edwards Aquifer water rights and other water rights that can be transferred from Bexar County operations and other Vulcan operations in Medina County to adequately supply the needs for construction, operation, and maintenance of the SGR rail line.

18. **Please provide a description of how the proposed rail loading operations would take place**

at the rail loading track on the quarry site.

The rail cars would be loaded in one of two ways. Rubber tired, front end loaders will load material directly into the cars from finished product stockpiles in the vicinity of the loading track or the rail cars will be loaded from an elevated loading bin filled by a conveyor(s) located under large finished product stockpiles. It is anticipated that loading of each train will be a continuous process taking about eight (8) hours and that locomotive power will be used to "spot" the railcars for loading.

19. **Has SGR determined whether the rail loading track on the quarry site would be a series of straight parallel tracks or a loop?**

While SGR is leaning toward the loading loop that has been depicted on maps of its proposed line, there is still the possibility that it may use a system of straight tracks in lieu of a loading loop. A final decision will be made in the final design process after a route has been chosen for construction.

20. **Would construction activities for the proposed rail loading track differ from construction activities for the construction of the rest of the rail line? If so, please describe how.**

Construction activities for the proposed loading track would not differ in comparison to those for the rest of the rail line.

21. **Please provide information regarding the number of private roadways and driveway crossings for each alignment and whether SGR has developed specific plans for these crossings.**

SGR is aware that its Proposed Route would not cross any private roadways or driveways. The modified Medina Dam Route and the Eastern Route would each cross about four to five private roadways and driveways, but due to access limitations a definitive number cannot be determined. SGR does not have specific information on the number of private roadway or driveway crossings for Alternatives 1, 2 or 3. To the extent that SGR were to build its railroad on an alignment that would cross private roads or driveways, SGR has not to date developed specific plans for addressing such crossings, but would take reasonable steps consistent with any applicable regulatory requirements to ensure safety.

22. **Additional information regarding the proposed rail operations would be helpful in responding to comments. Commenters have requested the following information:**

How long would loaded rail cars stand idle? As it would be impossible to anticipate weather, scheduling and mechanical issues impacting the idle time, SGR is designing the system to load a 100 car unit train in 8 hours from the time it arrives at the quarry loading area. SGR does not know the answer to this question relative to other traffic it may handle for shippers that might locate on its line.

How many cars would accumulate before shipment? With respect to the Vulcan shipments, SGR plans to ship approximately 100 loaded cars per unit train. Maximum number? SGR's plans include a loop loading system that could hold up to approximately 200 loaded cars for Vulcan. SGR does not know the answer to this question relative to other traffic it may handle for shippers that might locate on its line.

Where would these unattended, loaded cars be parked? SGR currently plans that the cars handling Vulcan shipments will be parked on the loop track in the loading area and that these cars would be attended by SGR's load out crew. SGR does not know the answer to this question relative to other traffic it may handle for shippers that might locate on its line.

How would dust be controlled in this area? We assume that this question refers to the quarry area. Best Available Control Technology (BACT) will be utilized by Vulcan to control dust emissions at the facility. The BACT practices used are derived from the TCEQ Technical Guidance for Rock Crushing Plants (RG 058, February 2002).

Emissions from the first section of the plant will be controlled by operating water sprays at the inlet and outlet of the crushers, screens, and conveyors. Partial enclosures will also be used at the locations where material is transferred from crushers to conveyors to reduce emissions from cross winds.

The second section of the plant consists of wash screens, conveyors, and processes where the material is drenched with or submerged in water. This method of processing the material inherently controls emissions well beyond BACT requirements because it is saturated. The crushers in this section will be equipped with water sprays at the inlet and outlet points.

Emissions from the roads, active work areas, and stockpiles will be controlled by the use of an 8000 gallon water truck. The water truck will apply water to the road and work areas; a side cannon on the truck will be used to water stockpiles as needed. In addition, the entry/exit road will be paved, watered, and washed to control dust. A wheel wash will be installed at the location where trucks enter the paved road from the unpaved area, minimizing track out onto the paved road. In addition, signs will be posted, limiting product trucks to 15 mph on the facility property.

Would the diesel locomotives be idling during loading? We assume that this question refers to loading Vulcan shipments. Locomotives will be utilized to position the railcars when being loaded and their engines will not be stopped during this process. If so, for how long? SGR has not developed an estimate of the length of time that the engines of the locomotives would be at idle speed during the loading process.

If SGR plans to operate trains at speeds ranging from 12 to 25 miles per hour, why does the track design need to accommodate speeds of 40 miles per hour? If SGR could use speeds of 12 miles per hour going up one-degree grades, why could not speeds of 12 miles per hour be used to round curves? The track design is based on safety considerations. SGR expects that the average speed of trains

operating on the line may be 25 miles per hour and therefore top speeds are expected to exceed 25 miles per hour. The speed to be used on curves will vary based on the degree of curvature and grade considerations.

How long would a train sit on the rail line waiting to be transferred to the Union Pacific Railroad Company (UP) rail line? How would operations be coordinated with UP? Would cars be marshaled? How many trains would be on the rail line at one time? The amount of time a train will sit on the SGR line awaiting interchange to the UP line will vary based on the schedules of trains operating on the UP line. SGR personnel will coordinate regularly with UP personnel regarding train interchange with respect to scheduling and other operational considerations. SGR cannot estimate how many trains will be on the rail line at any given time however, it is highly unlikely that there will be more than one train in transit on the SGR line at any one time due to the fact that it will be a single track line. As stated in the DEIS, SGR anticipates that there will be two movements of empty trains and two movements of loaded trains on a daily basis when the quarry is operating at design capacity. SGR will coordinate its operations with the UP or other Class I railroads to provide for the most efficient handling of cars on the SGR line.

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.

Would SGR move directly from the quarry to the main line without pausing? It is currently anticipated the unit trains would move directly between the main line and loading area without stopping. SGR does not know the answer to this question relative to other traffic it may handle for shippers that might locate on its line.

What would be the average speed of the train entering or exiting the quarry at County Road 353? This would be determined after final engineering of the crossings and the development of an operating plan for the line after a final route has been chosen and the grades and lines of sight have been determined. However, SGR does not anticipate that speed of trains at this point would exceed 10 mph.

What would be the estimated speed of the train entering or exiting the UP line? This has not yet been determined because the type of switch (manual or automatic) and the design of the line at the point of intersection has not yet been engineered.

How much time would be required for a loaded train to accelerate from rest to 20 miles per hour? This would depend on the number of and type of engines and the grade and curvature of the track.

What would be the average speed of the train as it crosses County Road 353 from the quarry? This will be determined after final engineering of the crossing and the development of an operating plan for the line, after a final route has been chosen and the grades and lines of sight determined. As noted above, SGR does not anticipate that the speed of the trains at this point will exceed 10 mph.

What would be the days and hours of the train movements? SGR plans to operate 7 days per week. The exact hours of train movements are subject to several factors, which include the schedules established by the Class I Railroads and the needs of any other shippers that might locate on the SGR line.

Would UP's "fall peak" period affect the quarry movements? Based on SGR's consultations with UP, UP does not believe that the fall peak period will have any impact on traffic originating on the SGR line. It is possible that the "fall peak" period may have some short term impact on SGR operations, but SGR believes that this will diminish over time as the UP increases its system efficiency.

Would crossings near the loading area experience very slow or stopped cars? We assume that the reference is to the loading area near the quarry. The speed of SGR trains will be subject to a variety of considerations noted above, e.g., grade, curvature, operating demands. SGR's operating plan will be developed once a final route is chosen and final engineering completed. SGR does not intend to block crossings for any longer than is needed for the trains to pass. As noted, cars will be located on the loading tracks during loading operations, not on the portion of the SGR line that crosses any public roads.

Trucks: Numbers 23-24 refer to the use of trucks being analyzed by SEA as part of the "no action" alternative.

23. **How long would it take to construct the truck-to-rail remote loading facility proposed as part of trucking operations if SGR's rail line were not built? How many workers would be needed for the construction and operation of this facility?**

It will take approximately six months to construct this facility were it needed. Approximately fifteen to twenty workers would be needed for this project.

24. **SEA has assumed that the truck traffic to local markets, assessed as part of SEA's analysis of cumulative noise impacts in the Draft EIS, would take place during daytime hours (7 a.m. to 10 p.m.). Please verify that this is correct.**

This is correct. However; it is possible that customers such as the State of Texas, Medina and surrounding counties as well as contractors working for these agencies can have emergencies that could from time to time require truck shipments on a 24 hour basis.

Proposed Quarry: Numbers 25 — 31 refer to specific questions that have been raised regarding VCM's proposed quarry, which SEA is assessing, at a minimum, as part of the cumulative impacts analysis.

Vulcan is providing answers to these quarry-related questions in connection with the cumulative impacts analysis that SEA is undertaking in connection with the SGR rail line.

25. **In a letter dated February 15, 2005, you submitted information regarding several**

permitting processes for Vulcan Construction Materials, LP's (VCM) new quarry. You stated that VCM had received an air quality permit for a temporary rock crusher from the Texas Commission on Environmental Quality (TCEQ), was in the process of applying for a water pollution abatement plan (WPAP) from TCEQ, and would be applying for a storm water permit from TCEQ. Please provide an update on the permitting processes for the quarry.

Vulcan submitted an air quality permit for quarry operations to the TCEQ on July 7, 2005, and that application is pending before the TCEQ. That submission was independent of the portable rock crusher operations application previously described in a letter to SEA dated February 15, 2005. That July 7 application conservatively assumes, for purposes of air emissions projections, the use of truck transport of the aggregate extracted from the quarry. The application also notes, however, that the rail option (which is the option favored by Vulcan for safety, efficiency, environmental and other reasons) remains under regulatory review.

Vulcan is working on the hydrological and floodplain studies to support a WPAP application, which accordingly has not yet been submitted. Vulcan has not yet submitted an application for a storm water permit, but will do so prior to initiating quarry operations.

26. **According to information provided by the Medina County Floodplain Administrator, Medina County's floodplain permitting process follows the requirements of the Federal Emergency Management Agency's National Flood Insurance Program, set forth at 44 CFR 60.3, which was developed to implement the National Flood Insurance Act of 1968, as amended, and the Flood Disaster Protection Act of 1973, as amended, 42 U.S.C. 4001 *et. seq.* Has VCM begun consultation with the Floodplain Administrator to determine whether a floodplain permit would be required for the quarry? According to our review of the applicable regulations and a recent telephone conversation with the Floodplain Administrator, it appears that the Floodplain Administrator would need to make a determination that no permit is needed or would need to issue a permit prior to VCM beginning construction activities at the quarry.**

Vulcan has not to date consulted with the Medina County Floodplain Administrator concerning whether a floodplain permit would be required for the quarry. Vulcan does not believe that a permit will be required since it does not intend to construct any structures in the floodplain. If that situation were to change, Vulcan will take appropriate regulatory action. Accordingly, at the appropriate time, and to the extent warranted by the circumstances and the relevant legal requirements, Vulcan will conduct such consultations relative to the quarry.

MCEAA has alleged that the Vulcan quarry will increase flood risks by (1) removing all vegetation from the quarry site near Polecat and Elm Creeks, (2) altering hydrological characteristics of the area by excavating, blasting into ledges, and piling debris; (3) paving or rendering impermeable large portions of the site and (4) pumping significant amounts of groundwater for site use and dust control upgradient and then redepositing that water in a concentrated fashion to the groundwater table

downgradient.

MCEAA's flooding concerns are not well grounded. As to point 1, Vulcan will only remove vegetation in the quarry area at the site of the quarry pit and as necessary for quarry operations. Vulcan intends in fact to retain as much vegetation as reasonably possible as a best management practice, and has no current intention to remove all vegetation in the area of Polecat or Elm Creeks. Further, Vulcan expects that its storm water permit will impose conditions designed to reduce erosion, including the retention of vegetation.

As to point 2, while it is true that there will be some changes to the hydrological characteristics of the area as a result of excavation, the impact should not be adverse relative to the flooding concern since the pit that will be excavated will not reduce the level of recharge into the Aquifer. The Water Pollution Abatement Plan will ensure that Vulcan's activities do not result in undue runoff from the quarry area. Vulcan will maintain retention and/or detention ponds into which excess rainwater will drain and will follow other best management practices, the nature of which will be determined following further hydrological studies, now ongoing. The impact of any debris piles will be taken into account in the WPAP process.

As to point 3, Vulcan intends to pave only the entrance/exit road to/from the quarry. Doing so will improve air quality by controlling dust from truck operations. The remaining quarry area will not be paved.

As to point 4, Vulcan does not understand MCEAA's concern. All water extracted from wells for use at the quarry will be recycled. Thus, there will be no discharge of water used in quarry operations. The only water that will exit the quarry site will be excess rainwater and that water will leave only after being filtered and sediment has been removed. Further, such water will be discharged in a controlled manner so as to eliminate any flooding risk.

It also bears reiteration that, in response to MCEAA's concerns about quarry-induced flooding, that Vulcan will be subject to the conditions imposed on it by the WPAP permit for which it will be applying. Further, as noted Vulcan will consult as appropriate with the Medina County Floodplain Administrator should it take actions requiring that it do so.

Further, as Vulcan observed in its March 22, 2005 letter to SEA (at page 7), SEA determined based on its consultations with FEMA, Corps of Engineers and Medina County Floodplain Administrator that any of the alternative routes could give rise to some impacts on flooding and stream sedimentation. See DEIS 4-29 through 4-41. SEA then determined that a combination of the extensive mitigation volunteered by SGR (in the form of hydrological testing and design studies), and the extensive additional mitigation proposed by SEA (proposed mitigation measures 13-29), would adequately address these impacts. These proposed mitigation measures require, among other actions, that SGR comply with FEMA requirements prior to commencing construction activities in the 100 year floodplain; that SGR conduct a floodplain study and coordinate with the Medina County Floodplain Administrator; that SGR obtain any required Section 404 permits from the Corps of Engineers and that

SGR use best management practices to minimize erosion and reduce the potential for oil and fuel spills. SGR intends to adhere to all reasonable mitigation measures ultimately imposed by SEA.[3]

27. **Please provide a georeferenced digital map of the footprint of the quarry as well as a drainage plan for the quarry. This plan should show how flows that would enter the pit would be diverted, and where these diverted flows would be discharged downstream or adjacent to the quarry. Please provide the design capacities of the diversion structures.**

Vulcan has not yet developed the information called for by this question. Should such a map become available during the course of this proceeding, Vulcan will advise SEA. In connection with the preparation of its WPAP permit, Vulcan is in the process of developing the drainage data needed to prepare the information called for by this question.

28. **Please provide specific information about blasting activities at the quarry, including the approximate frequency and duration of blasting activities. This should include information about how blasting activities would be regulated and information about the distances at which blasting effects could affect sensitive structures (e.g. historic structures, wells). Please provide any information about the specific location of sensitive structures in relation to the quarry site. Any methodology used or information provided should be clearly explained and referenced.**

Blasting at the quarry will occur approximately five times per week when the quarry facility is operating at its design capacity. The duration of any given blast will be from 350 milliseconds to 1,500 milliseconds.

Vulcan will design all blasts using best available control technology, as it does at all of its quarries across the country. Further, Vulcan will design its blasts so as to comply with the widely applied blast-induced vibration guidelines set forth in report RI 8507 issued in 1980 by the U.S. Bureau of Mines. These guidelines take into account distances to the nearest sensitive structures, to ensure that vibrations and corresponding frequencies do not exceed the threshold for damage criteria as defined by the U.S. Bureau of Mines. Vulcan is not aware of any local regulations governing blasting activities in Medina County.

Beyond the information on historic structures set forth in the Draft EIS, Vulcan at this time has no information on the location of any historic structures near its quarry. Vulcan will take into account the information on historic structures (of which there are a very limited number in the area of the quarry) in designing its blasts. Vulcan also has no information on the location of wells that may be near its quarry. However, one of the proposed mitigation measures in the DEIS would require SGR to consult

[3] In a January 10, 2005 submission to SEA, SGR offered some modest comments on Mitigation Measure No. 24, concerning coordination with the Medina County Floodplain Administrator.

with property owners located adjacent to the rail right of way to identify the location of any wells in order to ensure that the railroad is constructed so as to retain the integrity of those wells. Vulcan will have access to information developed through that means and will take that information into account in designing its blasts. Vulcan will of course take into account the location of all other structures in the area as well in designing its blasts.

29. **Will the quarry be dewatered during mining operations? If so, how will storm water and wastewater be treated? Please provide an update on the WPAP application process. Also, please provide all technical reports and supporting documents and maps used for the WPAP application, as well as agency and consultant contact information.**

Normally, the quarry will not be dewatered as the quarry is on a recharge zone and is not expected to hold any significant amount of water. Vulcan operates several quarries on this Aquifer and does not normally dewater them. The quarry will be dewatered only after an unusually large rain event and only in the exceptional circumstances in which such action is needed to continue quarry operations. Any such dewatering will occur slowly and serve, in effect, as a flood control mechanism preventing a sudden or instantaneous surge of water in the event of a heavy rain. The outfall or location where water will be discharged in the event pit dewatering takes place will be identified in the storm water pollution prevention plan when developed.

There will be no discharge of wastewater as no wastewater will be discharged from the quarry. All such wastewater will be recycled within quarry boundaries. Under the storm water permit that it will seek and presumably receive, Vulcan will be permitted to discharge rainwater without treatment as long as the water meets required quality standards. Samples will be taken, as required by the permit. These samples will be inspected and tested according to the permit to ensure that the water meets applicable quality requirements. Vulcan is not yet in a position to share any technical reports or supporting documents relative to its WPAP application. That application is still in process, but Vulcan will advise the SEA when it is filed if that happens during the course of this proceeding.

30. **SEA's analysis of cumulative transportation and traffic safety impacts in the Draft EIS estimated that about 100 quarry employee cars would use roadways in the project area each workday, based on information provided by SGR. Please verify that this is correct.**

This is correct.

31. **Please provide information on the purpose and design of the proposed buffer zones around the quarry site.**

While a buffer zone surrounding the quarry site is not required by any regulations, Vulcan will maintain a minimum 100 foot buffer zone (set back) between the area to be quarried and the boundaries of all adjoining properties for safety and aesthetic purposes. Vegetation will be retained in the buffer zones as a BMP for storm water quality and to prevent erosion. Because the quarry pit will only advance at approximately 50 acres per year, the 1800 acre site will have significant unutilized area for

many years to come. Those areas not being utilized for quarrying purposes will likely serve as a wildlife habitat.

We would be pleased to respond to any questions that you might have concerning the above.

Respectfully,

David H. Coburn
Attorney for Southwest Gulf Railroad Company

cc: Ms. Rini Ghosh
Ms. Jaya Zyman-Ponebshek

SGR - Proposed & Alternate Routes
Cut/Fill Volumes Comparison
(assumes stopping fill at flood plain and using trestles to cross streams)
August, 2005

Route	New Volumes (Cubic Yards)		Original Volumes (Cubic Yards)		Difference in volumes between New and Original Calculations (Cubic Yards)	
	1.5 : 1 Slope	2 : 1 Slope	0.5 : 1 Slope	2: 1 Slope		
	Cut	Fill	Cut	Fill	Cut	Fill
Proposed	316,721	101,973	167,683	101,973	149,038	-
Alternate 1	27,126	187,430	22,456	187,430	4,670	-
Alternate 2	101,613	123,775	69,562	123,775	32,051	-
Alternate 3	176,696	425,865	109,882	425,865	66,814	-
Mod. Medina Dam	1,333,112	928,248	729,778	928,248	603,334	-
Eastern Route	834,106	445,533	336,566	445,533	497,540	-

EXHIBIT 1

Vulcan Materials Company

EXHIBIT 2

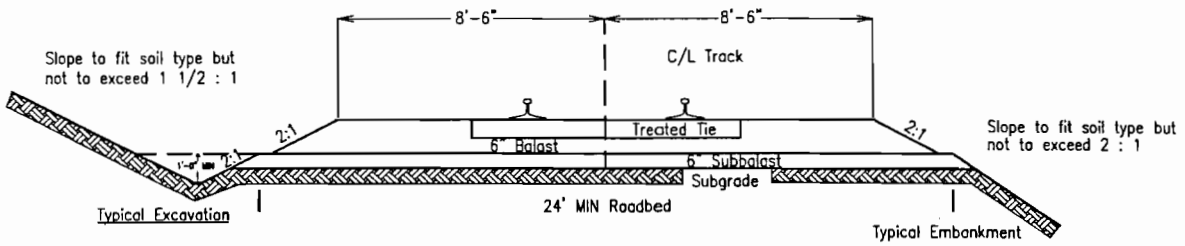


Figure 1. INDUSTRY TRACK

Notes:

1. 6" Min. Granular subballast or as required per local subgrade conditions
2. For Industry Track Ballast section to be level with top of tie where walking required, 8'–6" Min. from center line

	DATE	REVISION	BY
D			
C			
B			
A			
–		INITIAL RELEASE	

Industry Track

Typical Cross Section

DIVISION: Southwest Gulf Railroad
PLANT:
DRAWN BY: RG
DATE: August 2005
CHECKED BY:
DATE:
PROJ. NO.:
SCALE: None
FILE SERVER:
SHEET 1 OF 1
DWG. NO.:
REV.: REV

Southwest Gulf Railroad Company
Preliminary Proposed and Alternative Rail Routes Data

Description	Approx. top of rail bed elevation		Length of Rail (miles)
	UPRR Track	Quarry Entry	
Proposed Route	980.50	931.20	7.50
Alternative 1	959.50	931.20	10.60
Alternative 2	933.20	931.20	7.23
Alternative 3	979.80	931.20	7.90
Modified Medina Dam Route	981.10	931.20	11.24
Eastern Route	981.00	931.20	9.01

5,000 Feet

SGR – Proposed & Alternate Routes

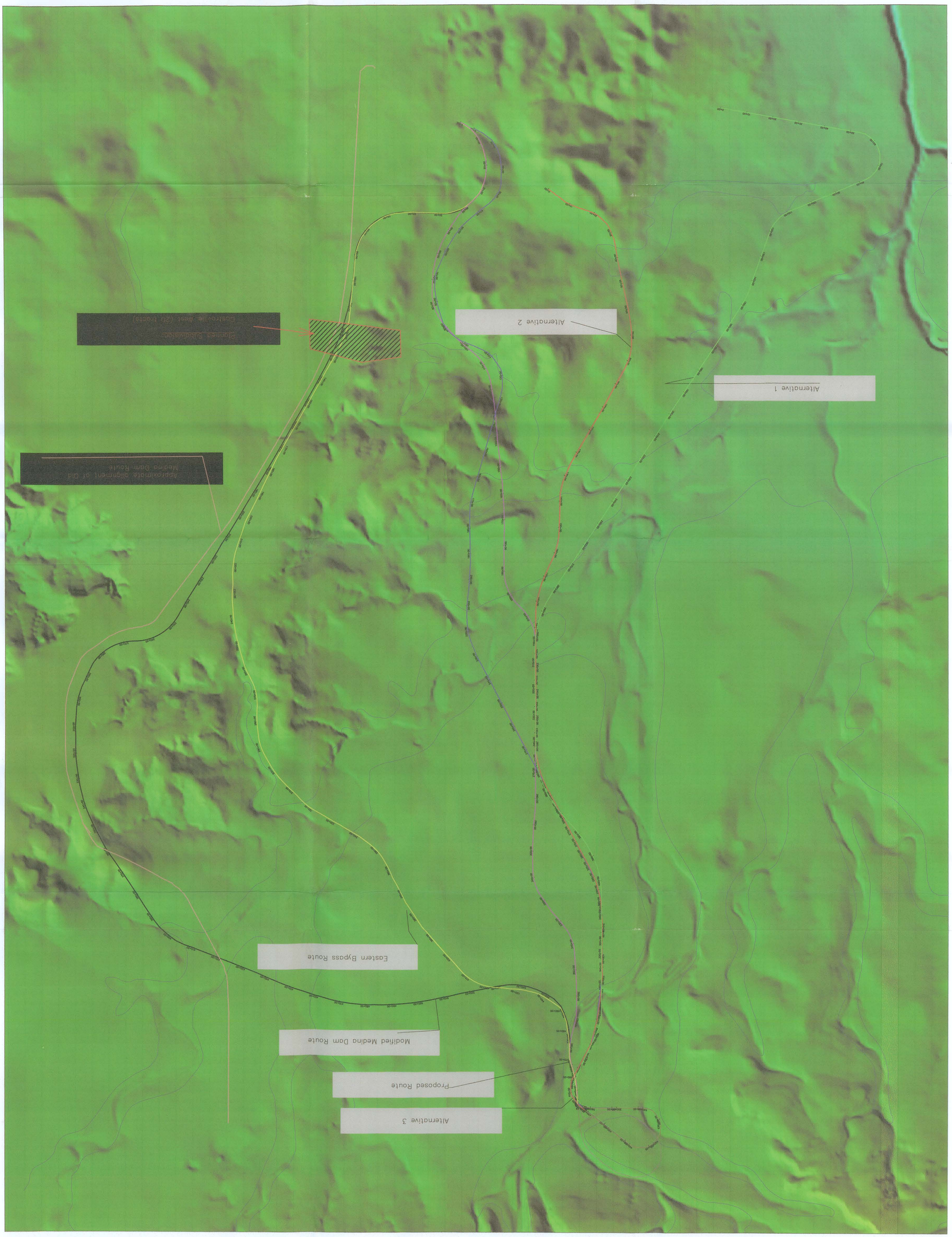
Medina County, Texas August 2005

Eastern Bypass Route
Modified Medina Dam Route
Alternative 1
Alternative 2
Alternative 3
Proposed Route

Flood Plain: FEMA 100-year flood plain

EXHIBIT 4

EXHIBIT 5


Alternative 1
Alternative 2
Eastern Bypass Route
Modified Medina Dam Route
Proposed Route
Alternative 3
Approximate alignment of Old Medina Dam Route
Diversion Channel
Castroville West (2D Model)
Modified Medina Dam Route
Alternative 1
Alternative 2
Alternative 3
Proposed Route
5,000 Feet
SGR – Proposed & Alternate Routes
Medina County, Texas
August 2005
Flood Plain: FEMA 100-year flood plain

Southwest Gulf Railroad Company

Preliminary Proposed and Alternative Rail Routes Data

Medina County, Texas

Southwest Gulf Railroad Company

Preliminary Proposed and Alternative Rail Routes Data

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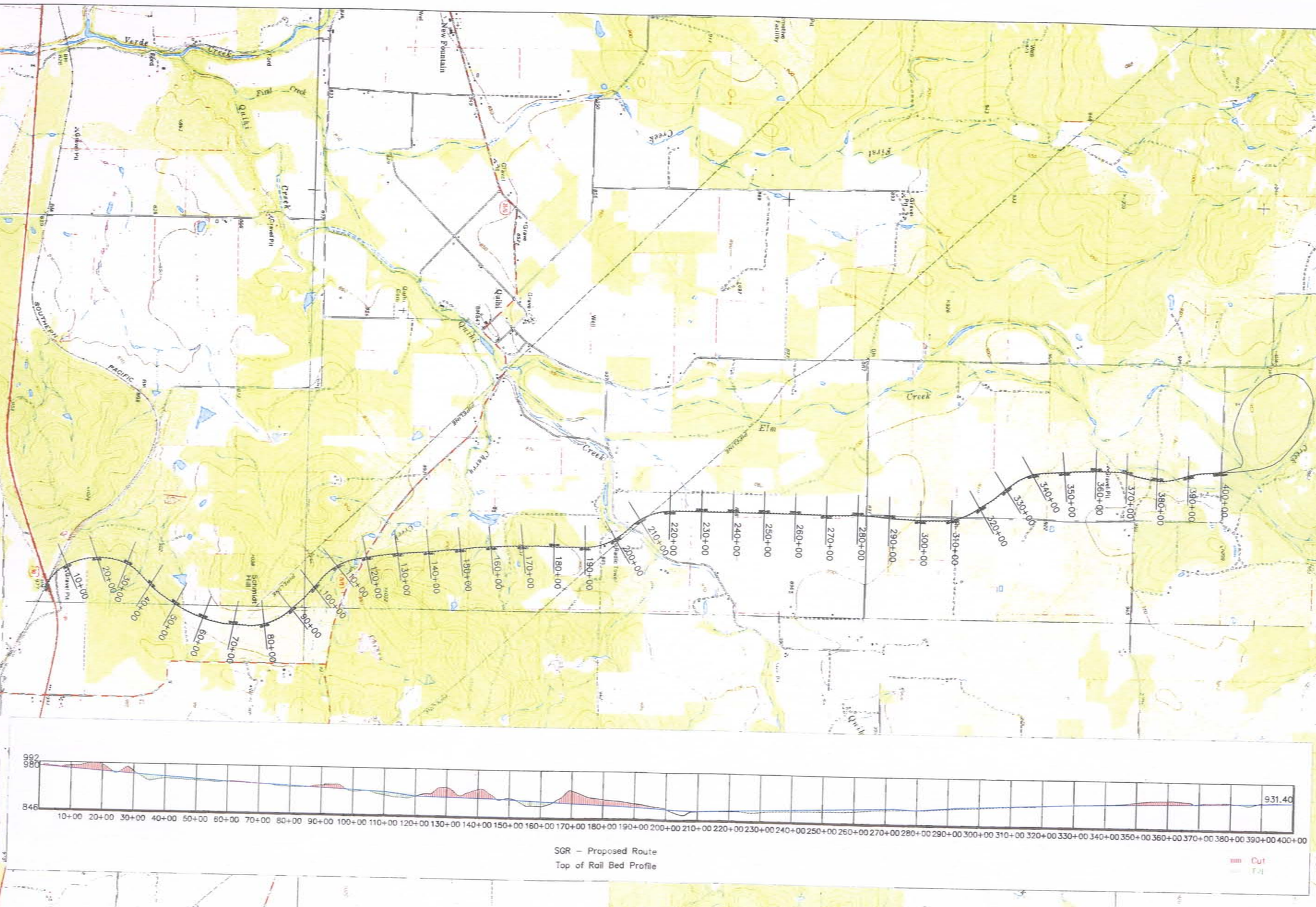
SGR – Proposed Route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SGR – Proposed Route
Top of Rail Bed Profile
Cut
Fill

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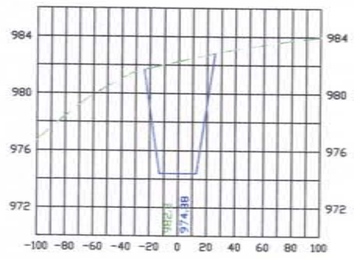

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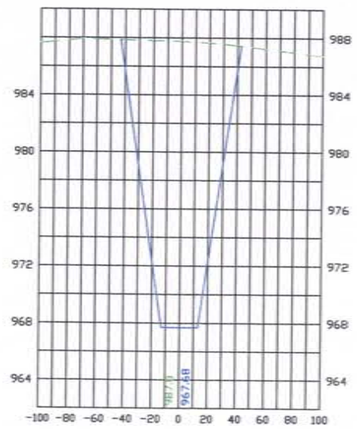

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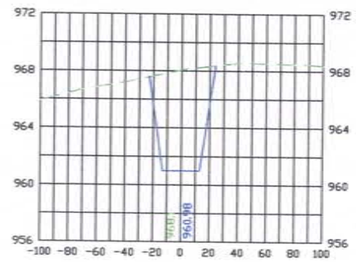

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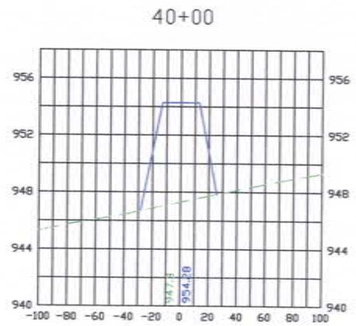

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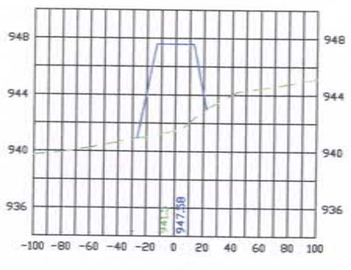

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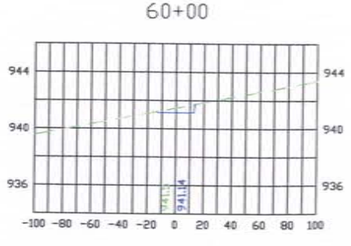

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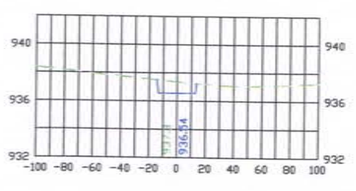

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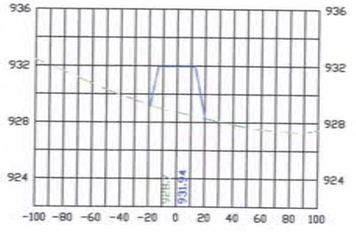


Notes:

1) Profiles are vertically exaggerated

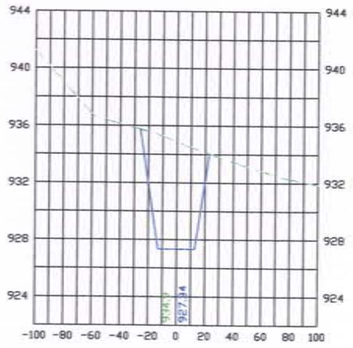
2) Profiles subject to revision in accordance with final engineering design

SGR - Proposed Route

Existing Elevation

Proposed Elevation

90+00



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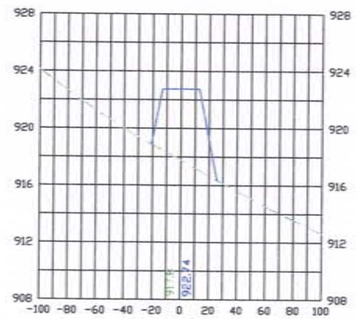

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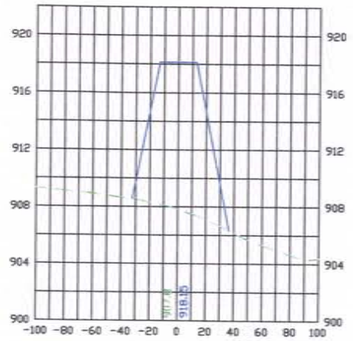

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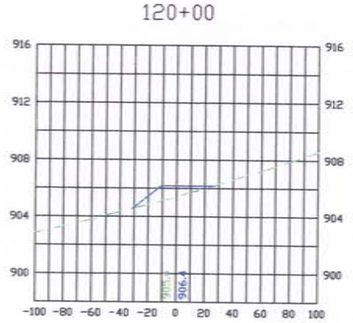

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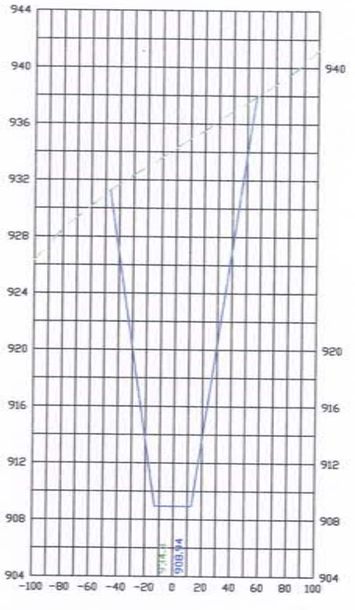

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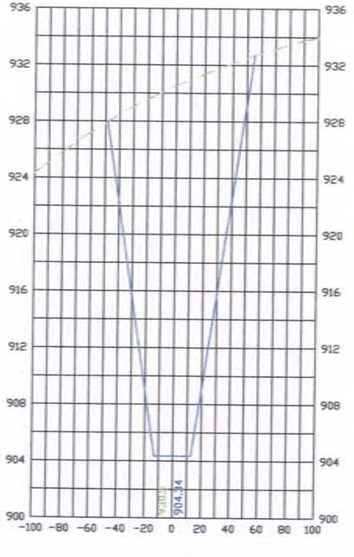

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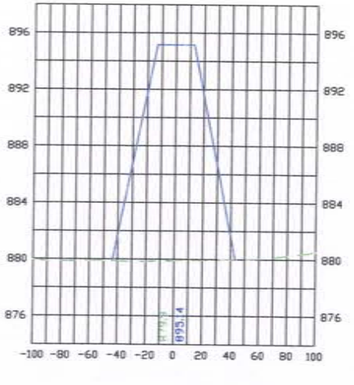
160+00



Notes:

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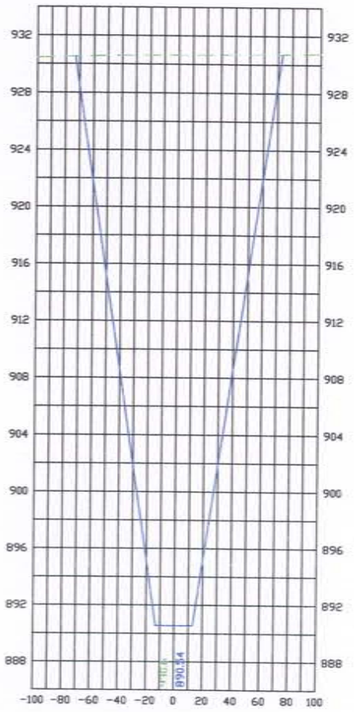
SGR - Proposed Route

Existing Elevation

Proposed Elevation

170+00



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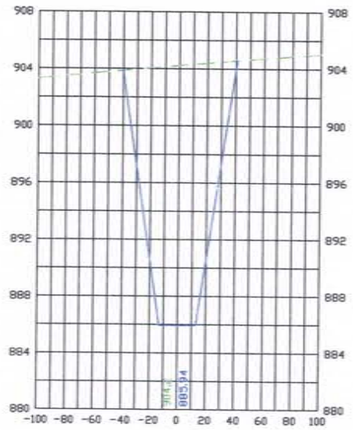

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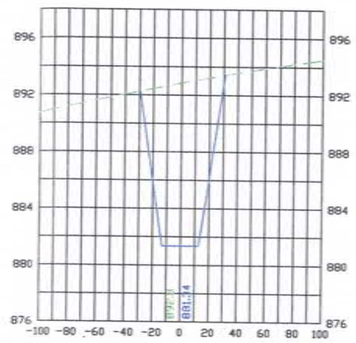

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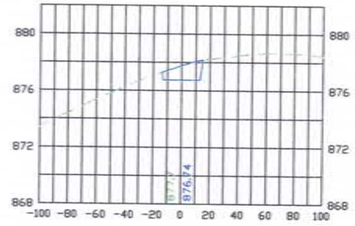

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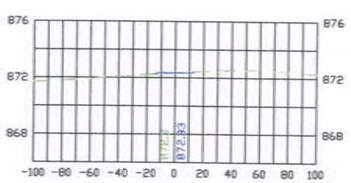

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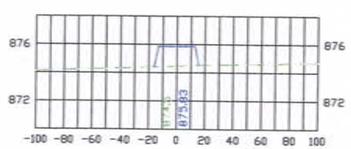

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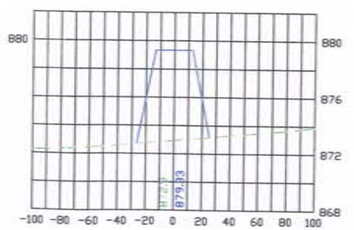

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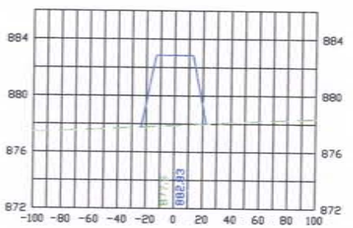

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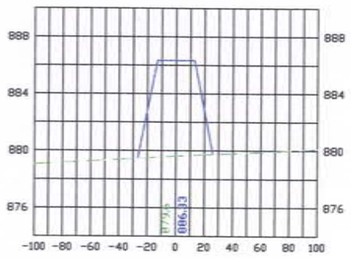
SGR - Proposed Route

Existing Elevation

Proposed Elevation

250+00



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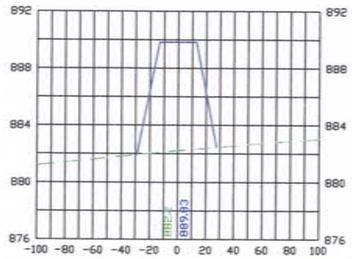

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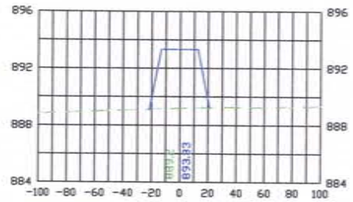

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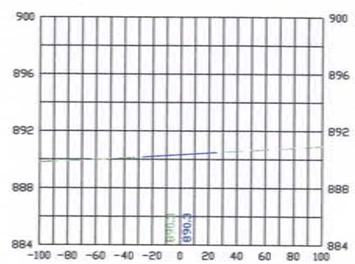

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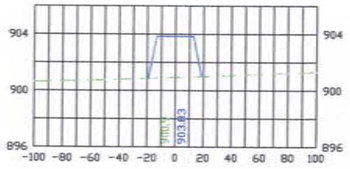

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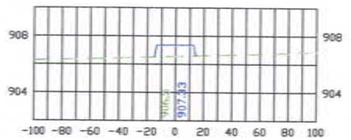

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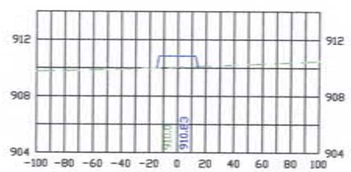


Notes:

1) Profiles are vertically exaggerated

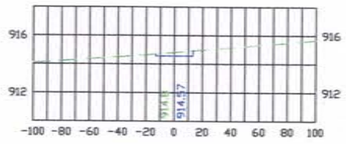
2) Profiles subject to revision in accordance with final engineering design

SGR - Proposed Route

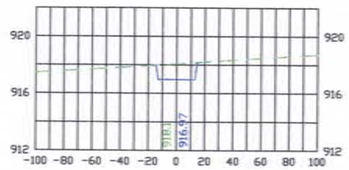
Existing Elevation

Proposed Elevation

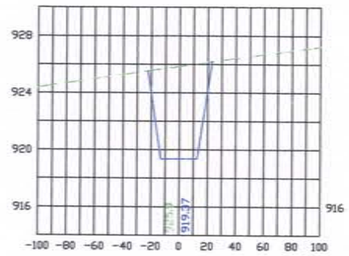
330+00



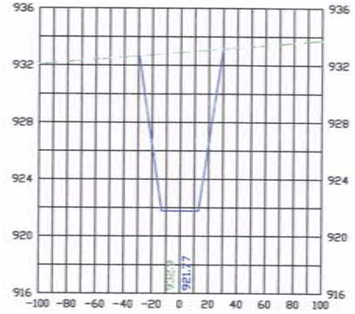
340+00



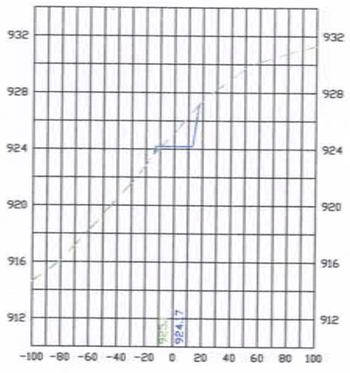
350+00



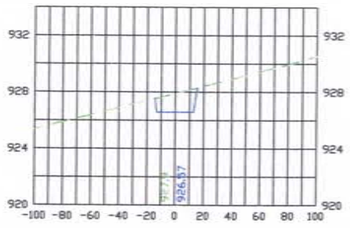
360+00



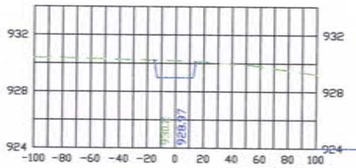
370+00



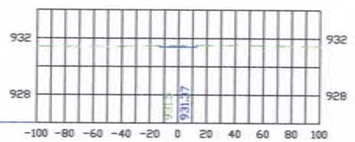
380+00



390+00



400+00



Notes:

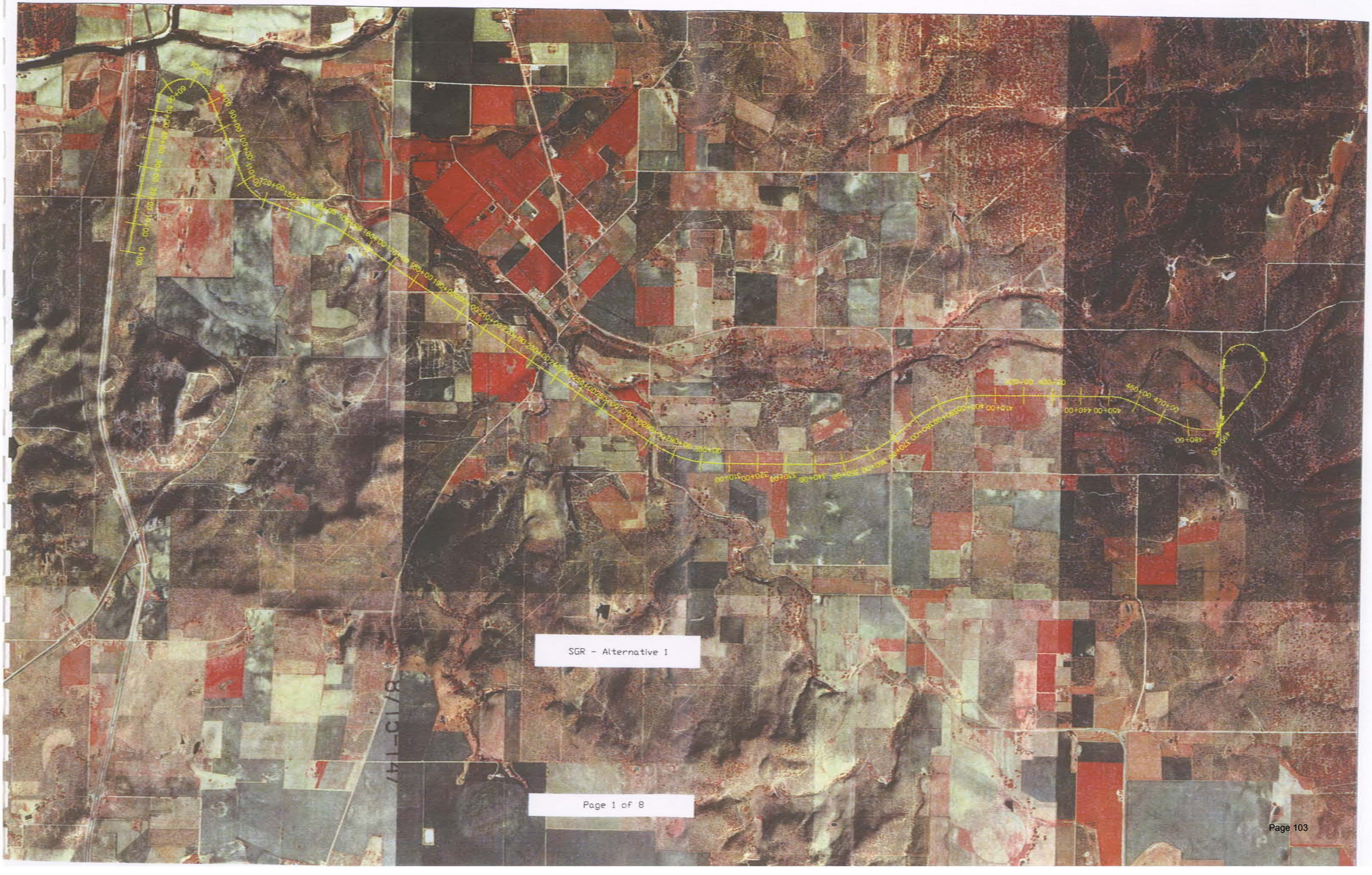
1) Profiles are vertically exaggerated

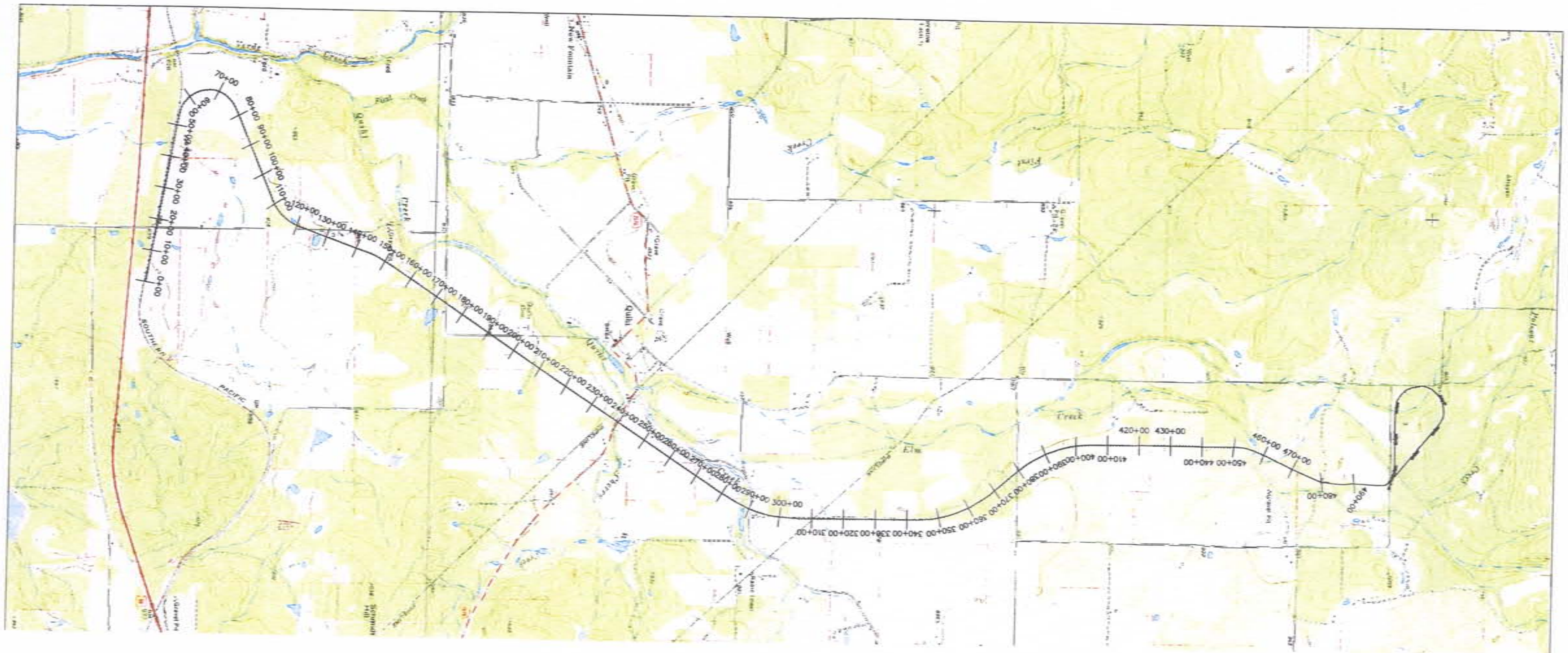
2) Profiles subject to revision in accordance with final engineering design

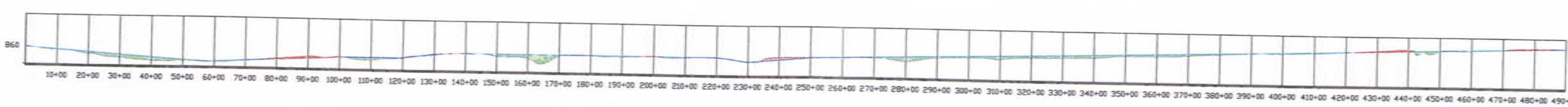
SGR - Proposed Route

Existing Elevation

Proposed Elevation


SGR - Alternative 1
Page 1 of 8



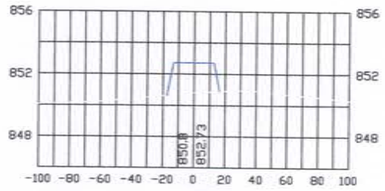


SGR - Alternative 1

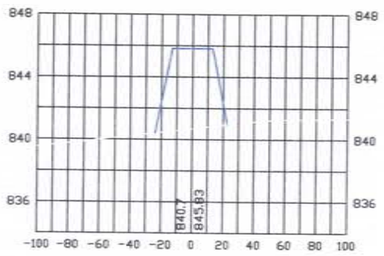
Top of Rail Bed Profile

Cut

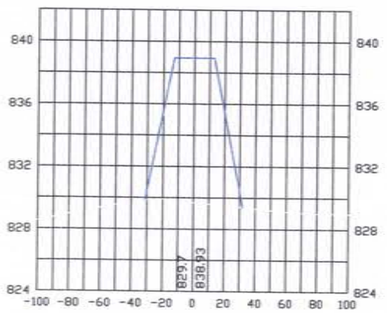
10+00



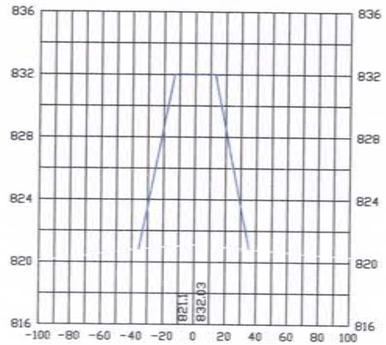
20+00



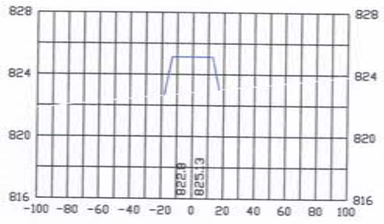
30+00



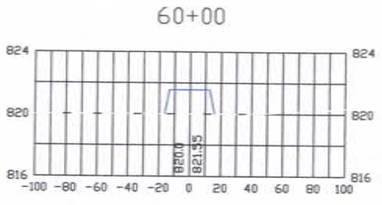
40+00



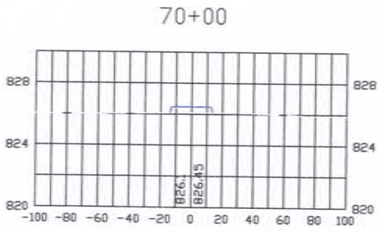
50+00



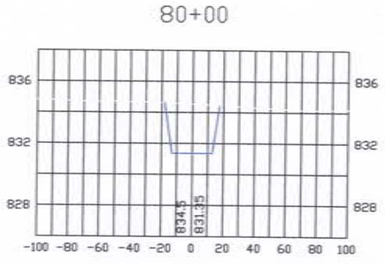
60+00



70+00



80+00



SGR - Alternative 1

Notes:

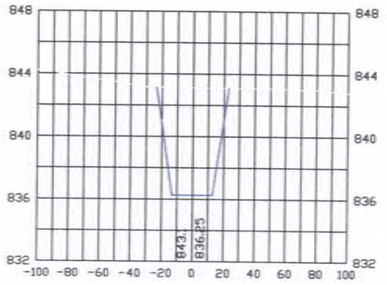
1) Profiles are vertically exaggerated

2) Profiles subject to revision in accordance with final engineering design

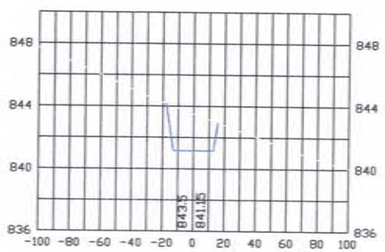
Existing Elevation

Proposed Elevation

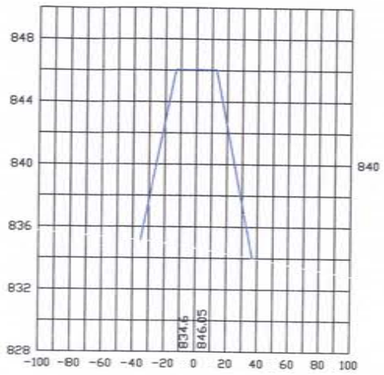
90+00



100+00

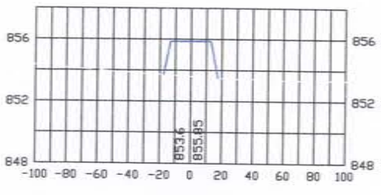


110+00

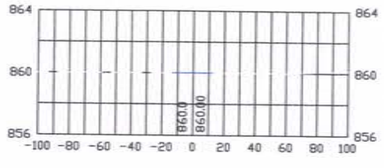


120+00

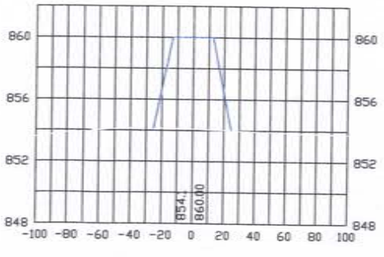
130+00



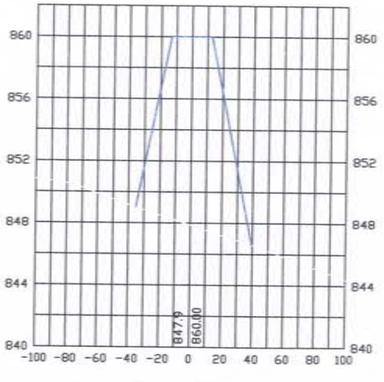
140+00



150+00



160+00



SGR - Alternative 1

Notes:

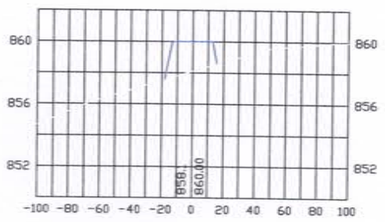
1) Profiles are vertically exaggerated

2) Profiles subject to revision in accordance with final engineering design

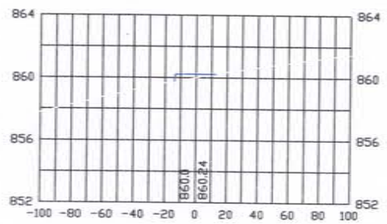
Existing Elevation

Proposed Elevation

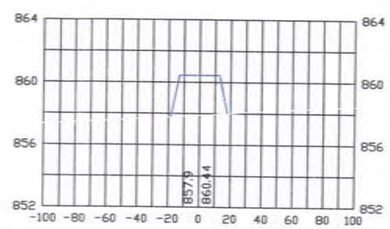
170+00



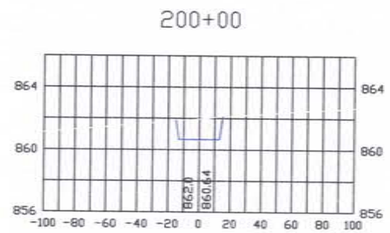
180+00



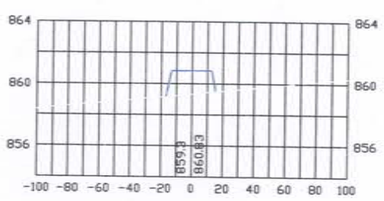
190+00



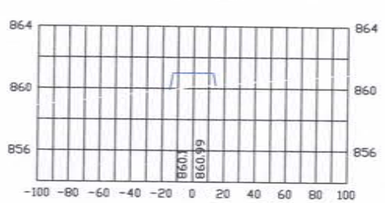
200+00



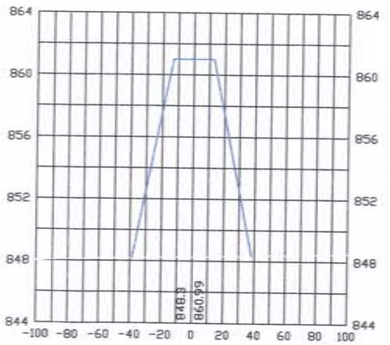
210+00



220+00



230+00



240+00

SGR - Alternative 1

Notes:

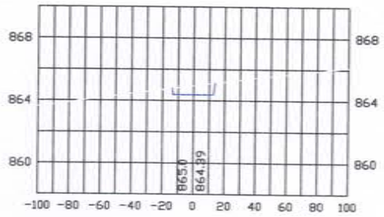
1) Profiles are vertically exaggerated

2) Profiles subject to revision in accordance with final engineering design

Existing Elevation

Proposed Elevation

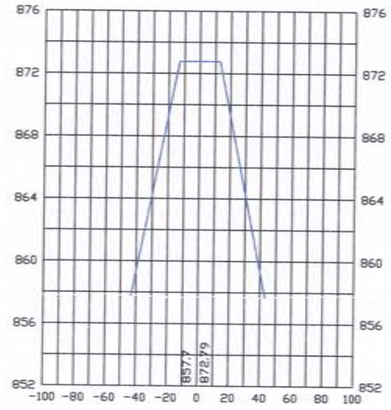
250+00



260+00

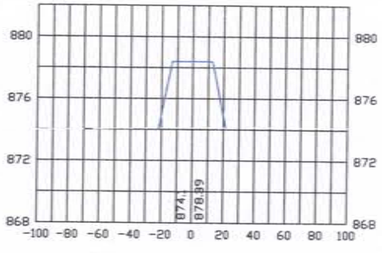
270+00

280+00

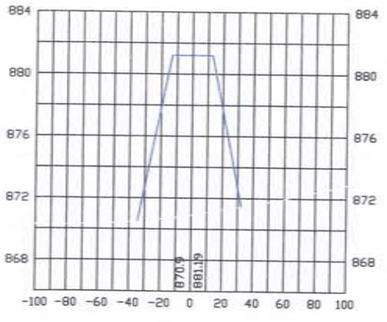


290+00

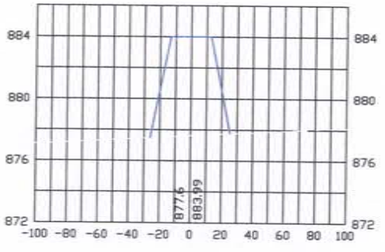
300+00



310+00



320+00



SGR - Alternative 1

Notes:

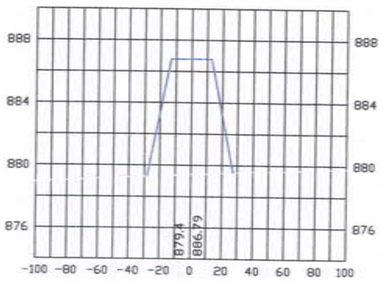
1) Profiles are vertically exaggerated

2) Profiles subject to revision in accordance with final engineering design

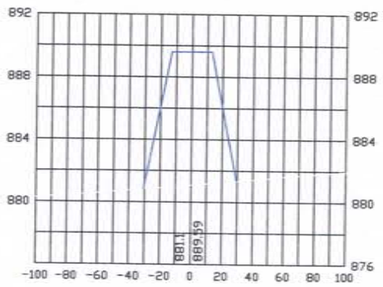
Existing Elevation

Proposed Elevation

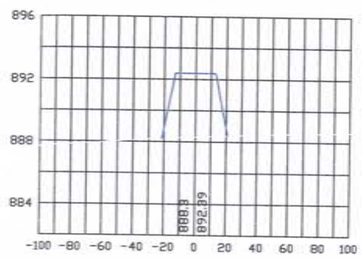
330+00



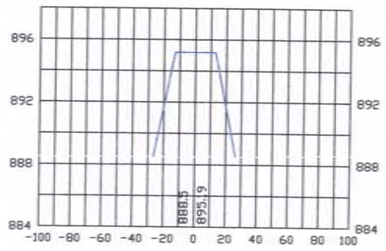
340+00



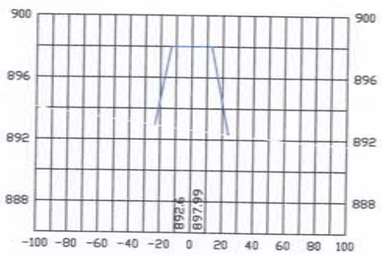
350+00



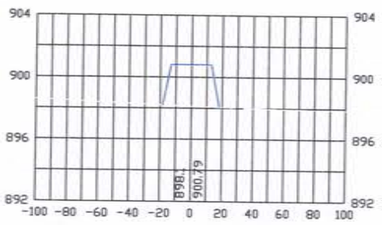
360+00



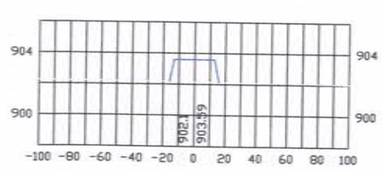
370+00



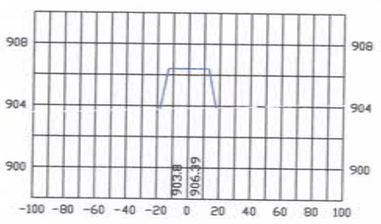
380+00



390+00



400+00



SGR - Alternative 1

Notes:

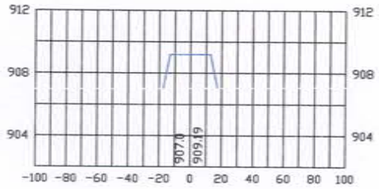
1) Profiles are vertically exaggerated

2) Profiles subject to revision in accordance with final engineering design

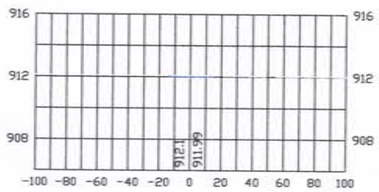
Existing Elevation

Proposed Elevation

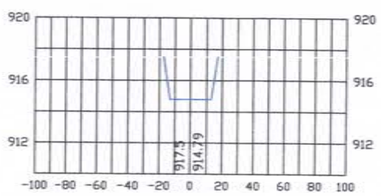
410+00



420+00

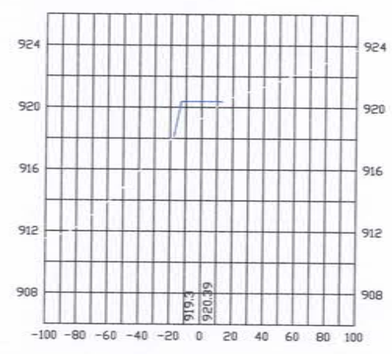


430+00

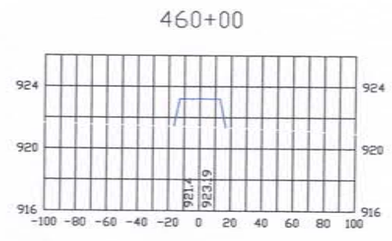


440+00

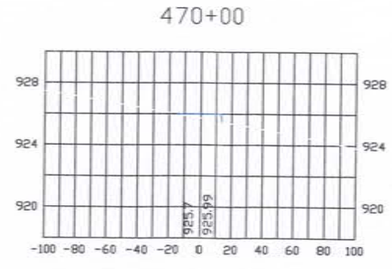
450+00



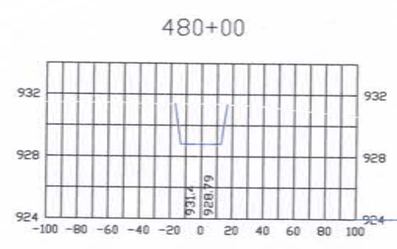
460+00



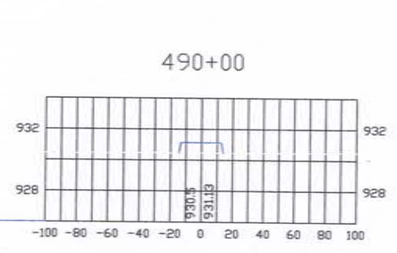
470+00



480+00



490+00



SGR - Alternative 1

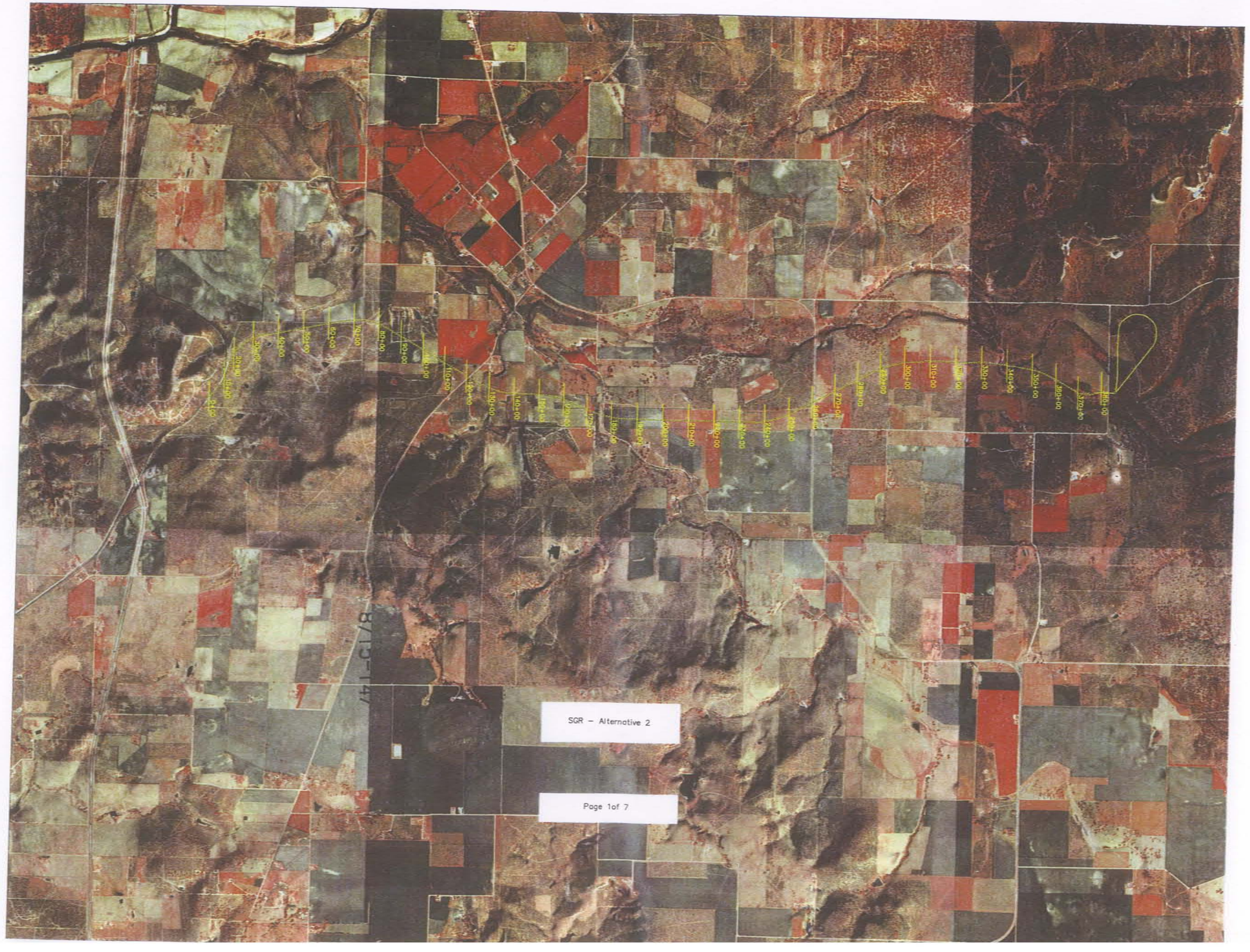
Notes:

1) Profiles are vertically exaggerated

2) Profiles subject to revision in accordance with final engineering design

Existing Elevation

Proposed Elevation


0+00
20+00
40+00
60+00
80+00
90+00
100+00
110+00
120+00
130+00
140+00
150+00
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170+00
180+00
190+00
200+00
210+00
220+00
230+00
240+00
250+00
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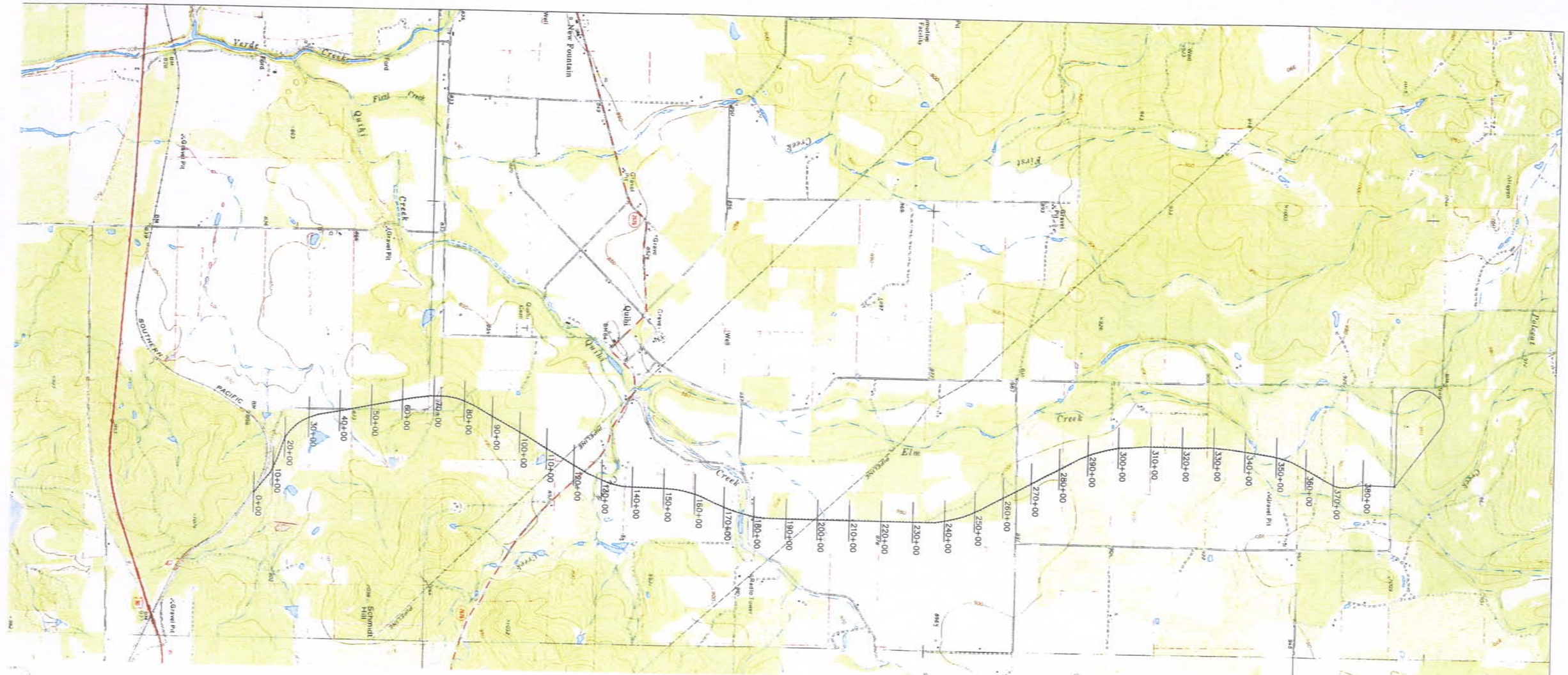
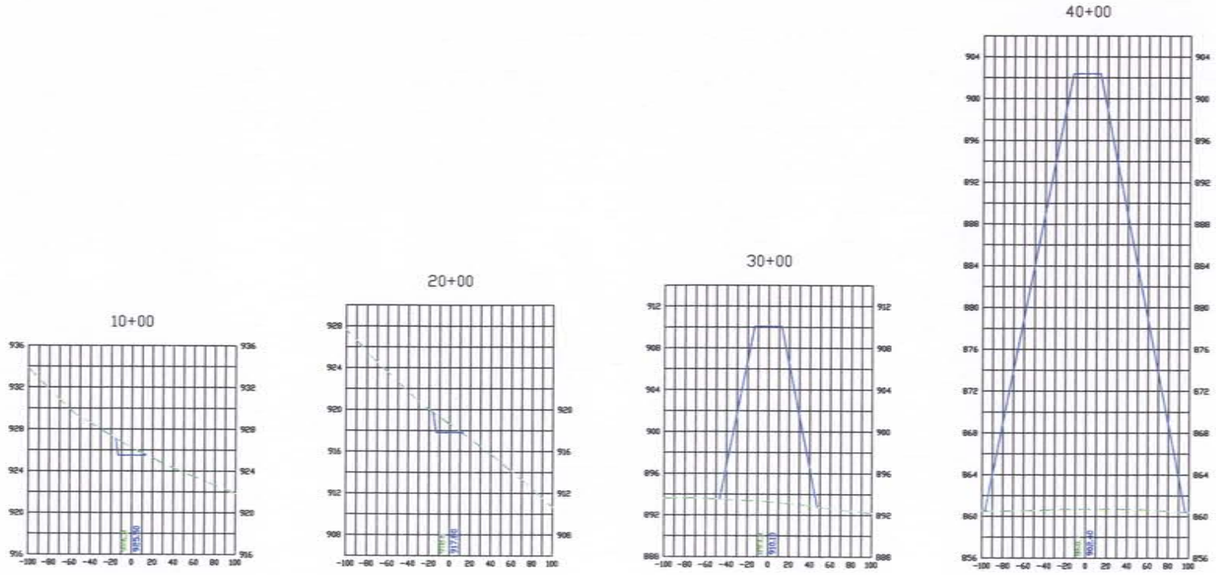
280+00
290+00
300+00
310+00
320+00
330+00
340+00
350+00
360+00
372+00
382+00
8/13-147
SGR – Alternative 2
Page 1of 7



SGR – Alternative 2

Top of Rail Bed Profile



SGR - Alternative 2

Notes:

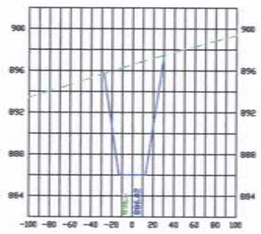
1) Profiles are vetically exaggerated

2) Profiles subject to revision in accordance with final engineering design

Existing Elevation

Proposed Elevation

90+00



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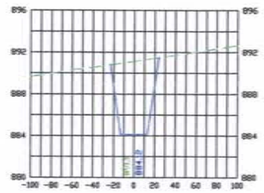

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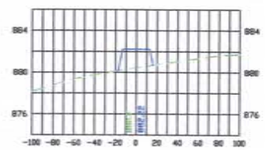
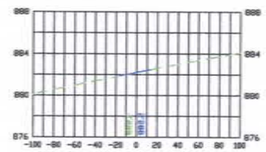
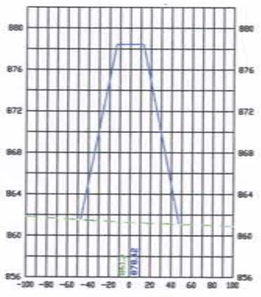


120+00



130+00



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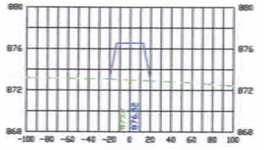
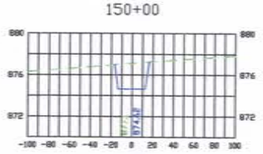


150+00



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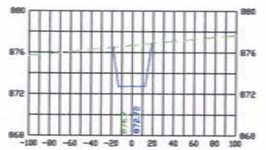


SGR - Alternative 2

Notes:

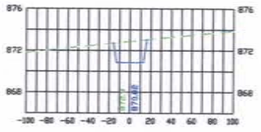
1) Profiles are vetically exaggerated

2) Profiles subject to revision in accordance with final engineering design

Existing Elevation

Proposed Elevation

170+00



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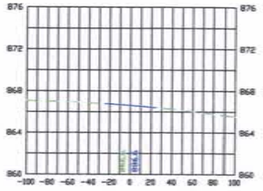

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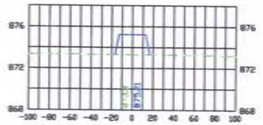

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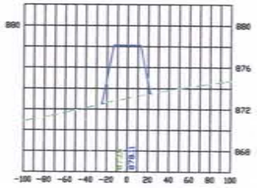

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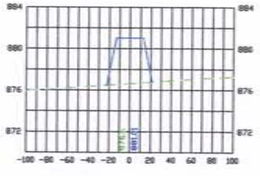
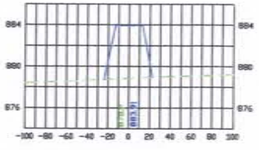
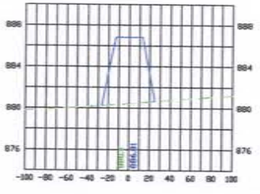


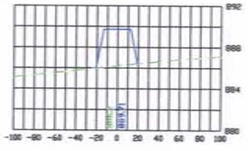
220+00



230+00



240+00



SGR - Alternative 2

Notes:

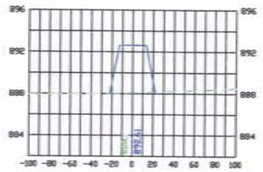
1) Profiles are vetically exaggerated

2) Profiles subject to revision in accordance with final engineering design

Existing Elevation

Proposed Elevation

250+00



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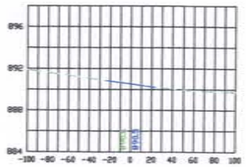
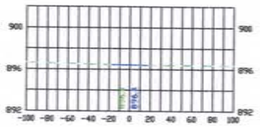


270+00



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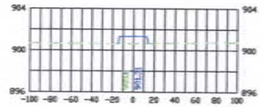

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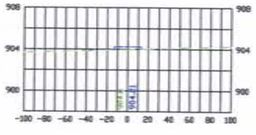

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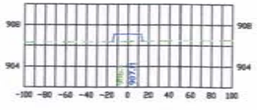
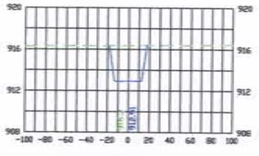


310+00

320+00



SGR - Alternative 2

Notes:

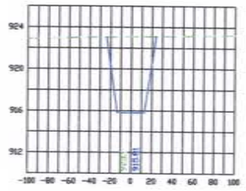
1) Profiles are vetically exaggerated

2) Profiles subject to revision in accordance with final engineering design

Existing Elevation

Proposed Elevation

330+00



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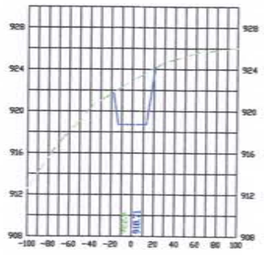

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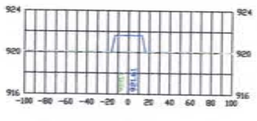

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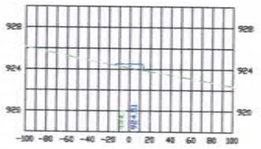

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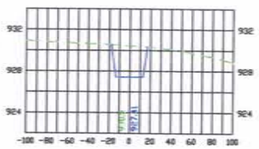

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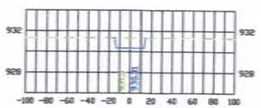


SGR - Alternative 2

Notes:

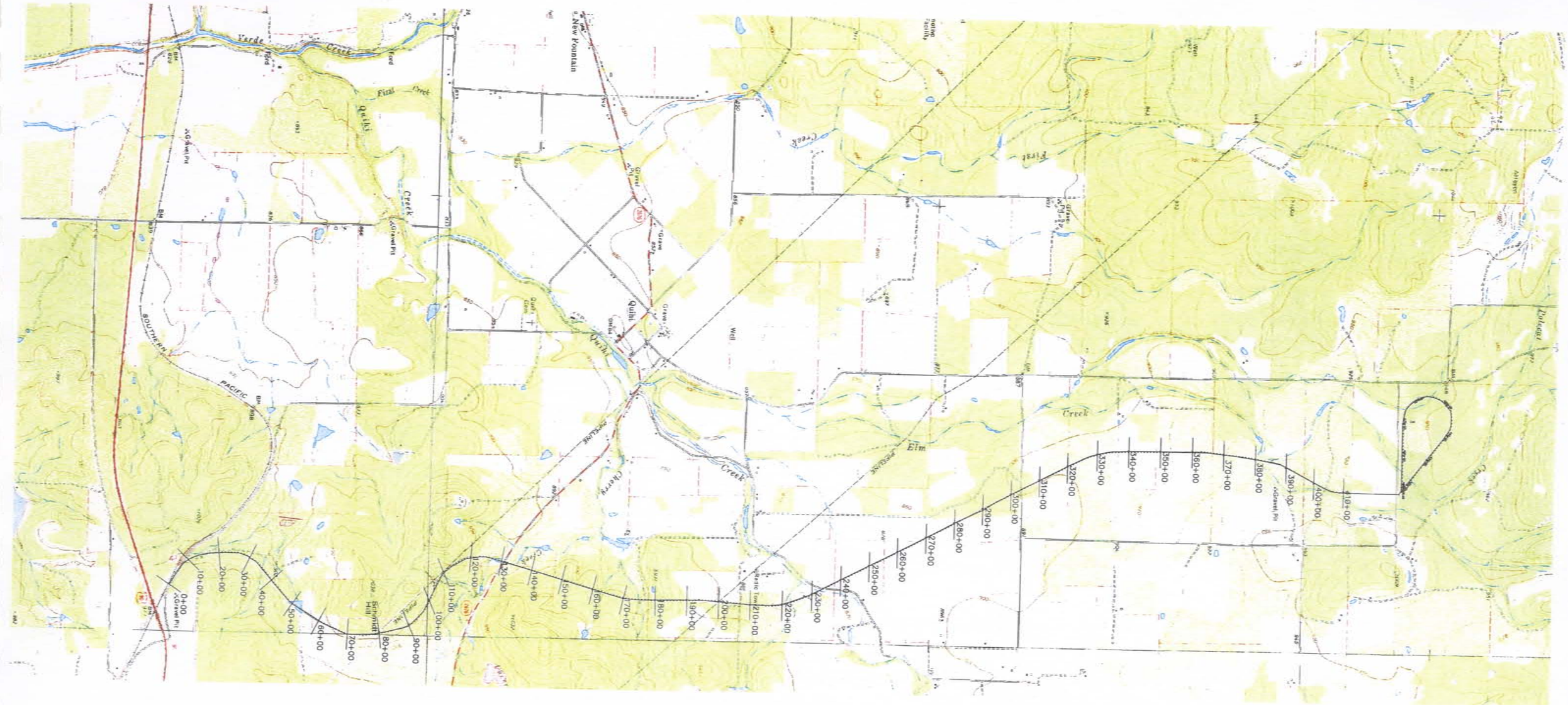
1) Profiles are vetically exaggerated

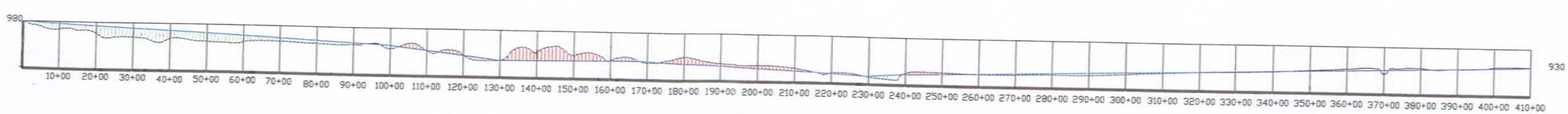
2) Profiles subject to revision in accordance with final engineering design

Existing Elevation

Proposed Elevation

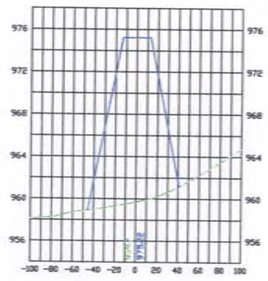
Page 1 of 8



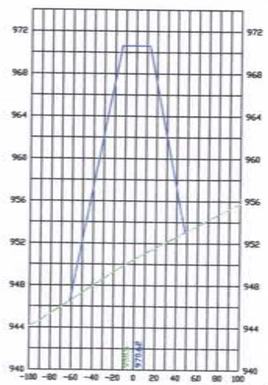


SGR – Alternative 3
Top of Rail Bed Profile

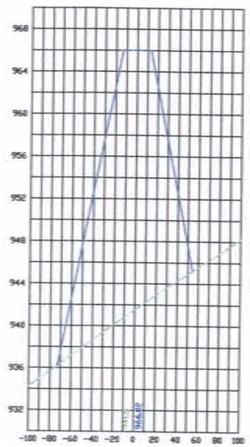
10+00



20+00



30+00



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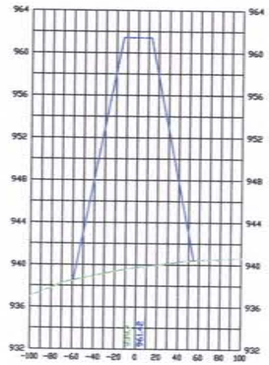

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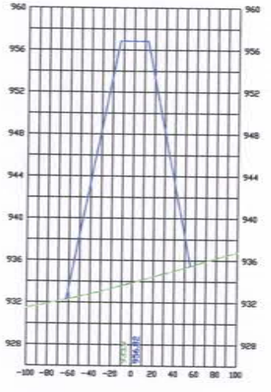

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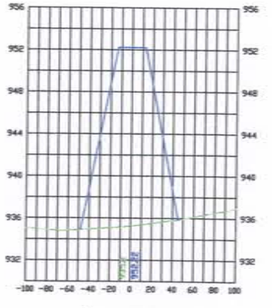

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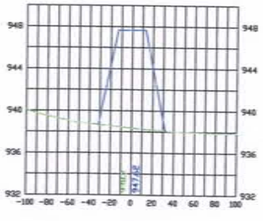
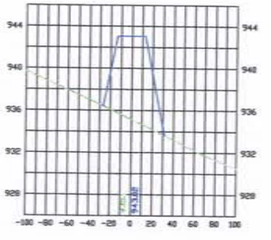


80+00



Notes:

1) Profiles are vertically exaggerated

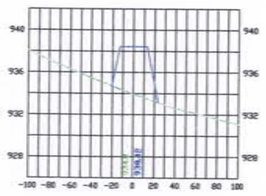
2) Profiles subject to revision in accordance with final engineering design

SGR - Alternative 3

Existing Elevation

Proposed Elevation

90+00



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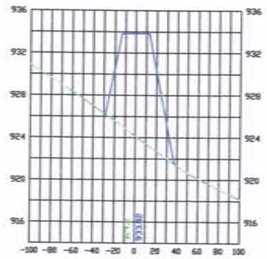
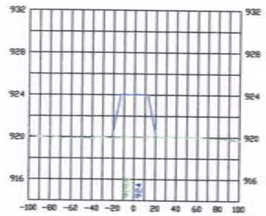
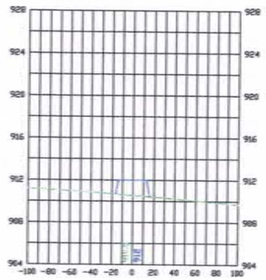


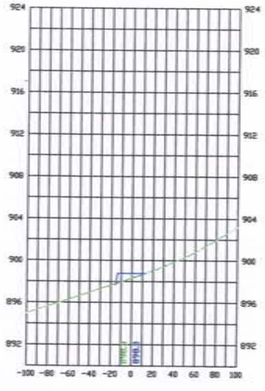
110+00



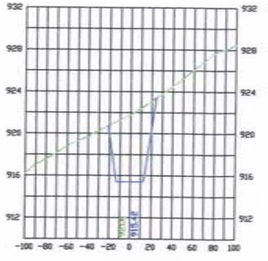
120+00



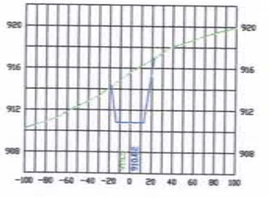
130+00



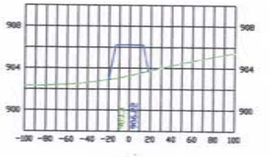
140+00



150+00



160+00



Notes:

1) Profiles are vertically exaggerated

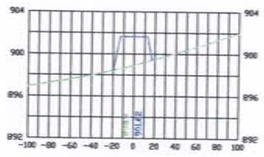
2) Profiles subject to revision in accordance with final engineering design

SGR - Alternative 3

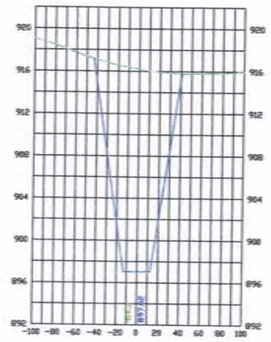
Existing Elevation

Proposed Elevation

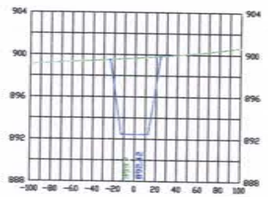
170+00



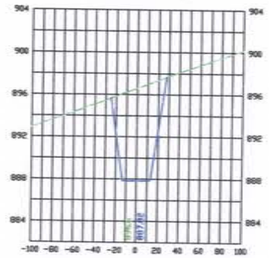
180+00



190+00



200+00



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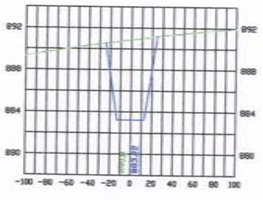
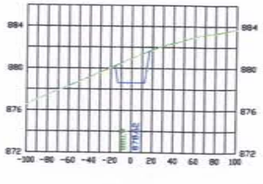


220+00



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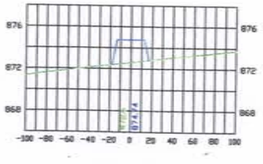
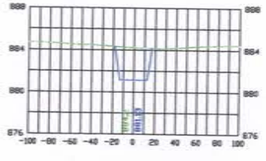


240+00



Notes:

1) Profiles are vertically exaggerated

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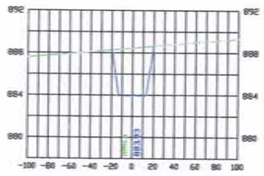
SGR - Alternative 3

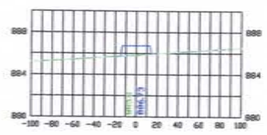
Existing Elevation

Proposed Elevation

250+00



260+00



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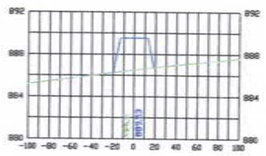

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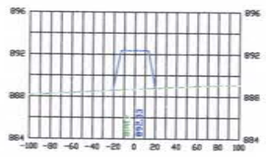
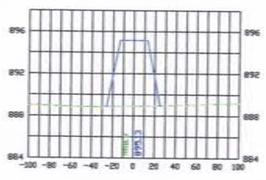
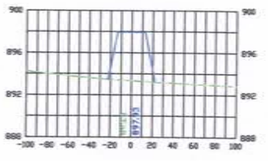


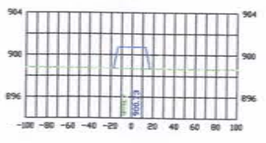
290+00



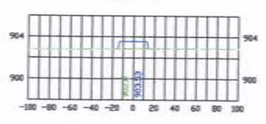
300+00



310+00



320+00



Notes:

1) Profiles are vertically exaggerated

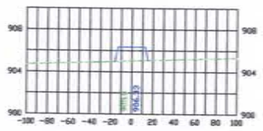
2) Profiles subject to revision in accordance with final engineering design

SGR - Alternative 3

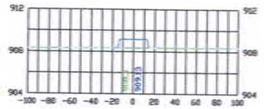
Existing Elevation

Proposed Elevation

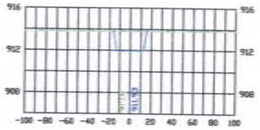
330+00



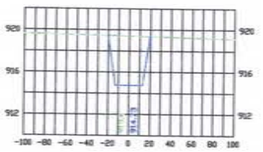
340+00



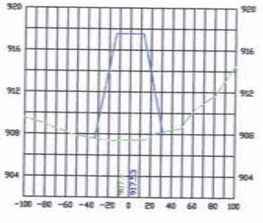
350+00



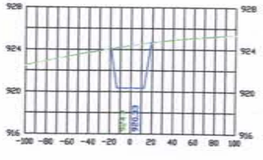
360+00



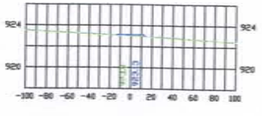
370+00



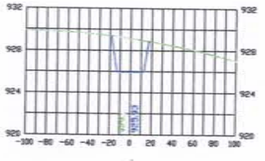
380+00



390+00



400+00



Notes:

1) Profiles are vertically exaggerated

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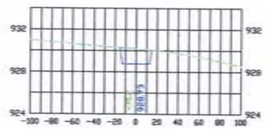
SGR - Alternative 3

Existing Elevation

Proposed Elevation

410+00



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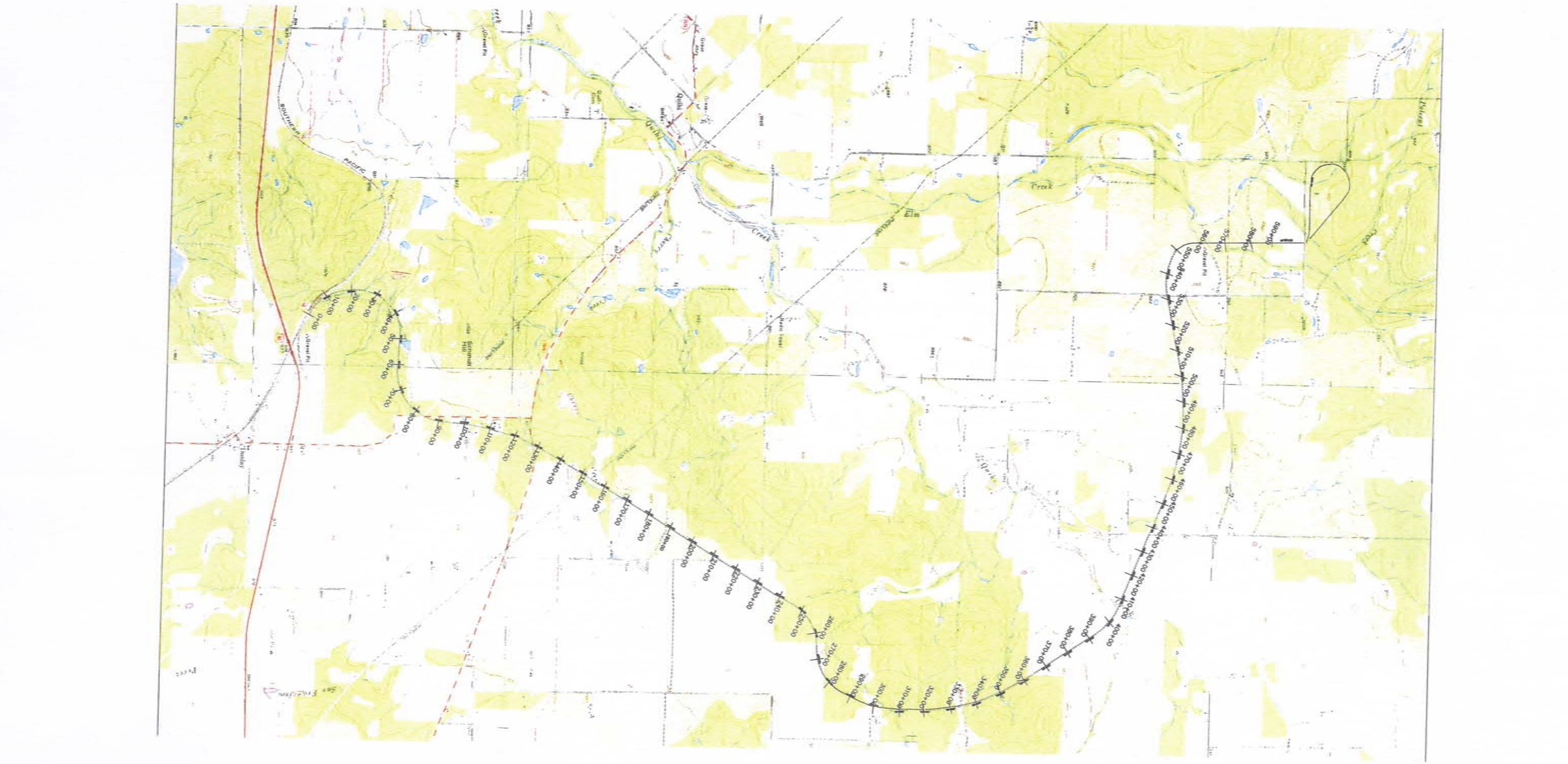
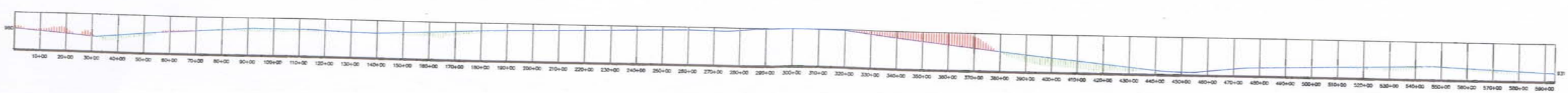
SGR - Alternative 3

Existing Elevation

Proposed Elevation


3/15-14/
SGR – Modified Medina Dam Route
Page 1 of 10

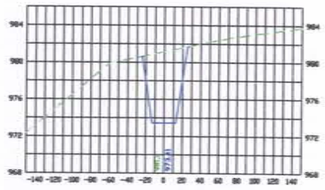




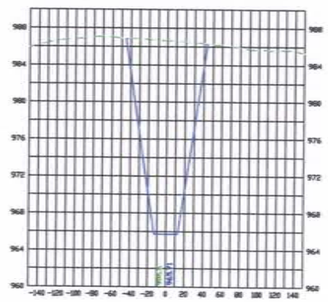
SGR – Modified Medina Dam Route

Top of Rail Bed Profile

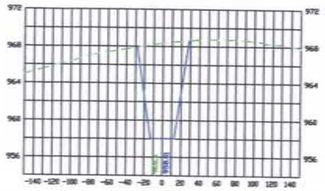
10+00



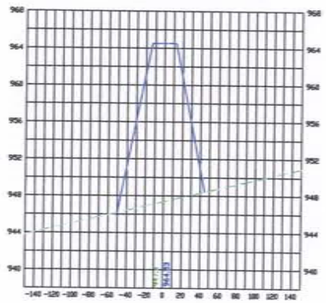
20+00



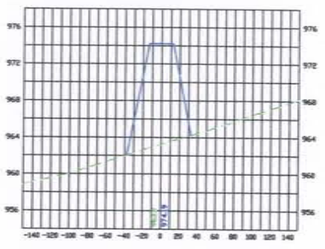
30+00



40+00



50+00



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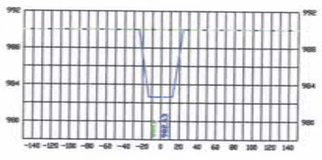
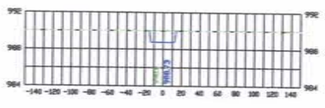
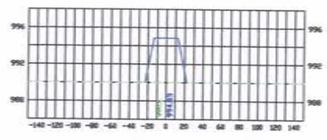


70+00



80+00



SGR - Modified Medina Dam Route

Notes:

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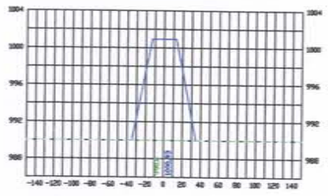
2) Profiles subject to revision in accordance with final engineering design

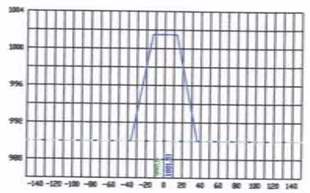
Existing Elevation

Proposed Elevation

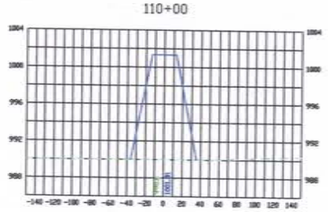
90+00



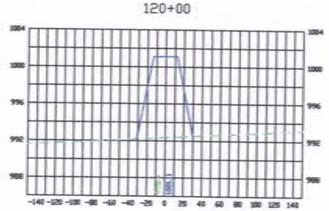
100+00



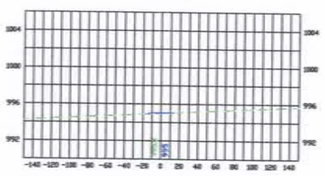
110+00



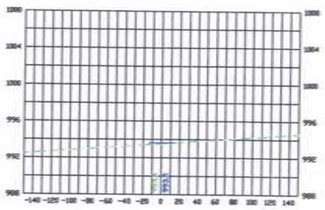
120+00



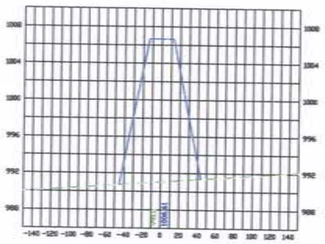
130+00



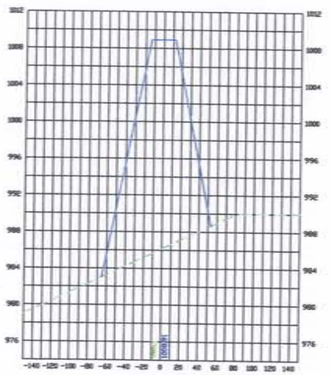
140+00



150+00



160+00



SGR - Modified Medina Dam Route

Notes:

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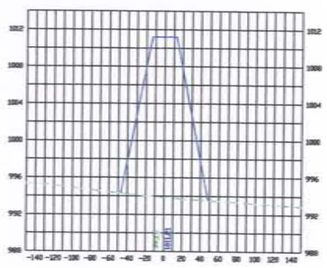
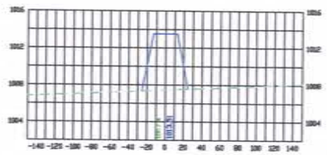
Existing Elevation

Proposed Elevation

170+00



180+00



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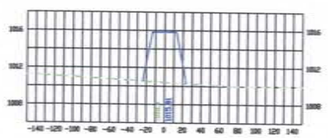
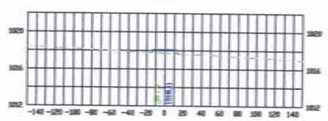
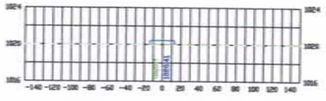


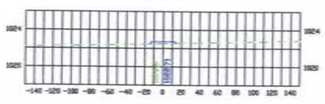
200+00



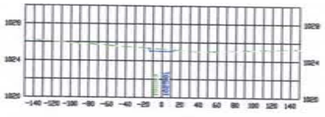
210+00



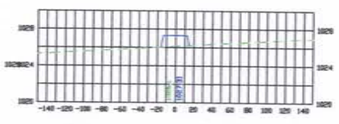
220+00



230+00



240+00



SGR - Modified Medina Dam Route

Notes:

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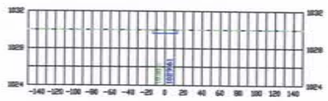
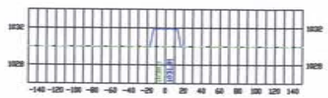
Existing Elevation

Proposed Elevation

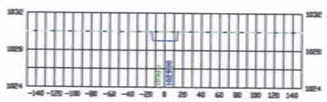
250+00



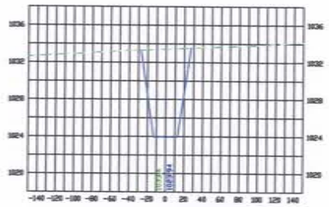
260+00



270+00



280+00



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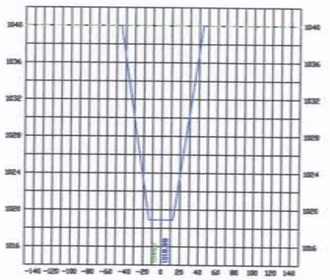
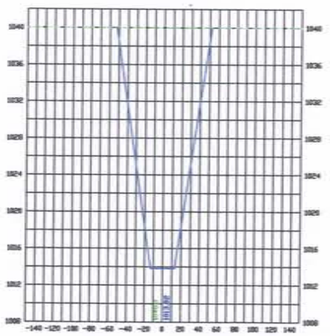
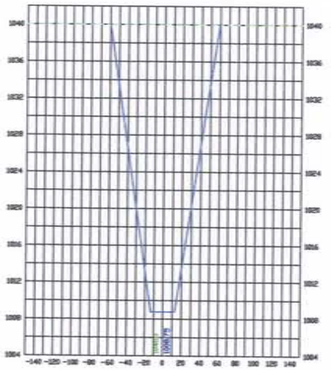


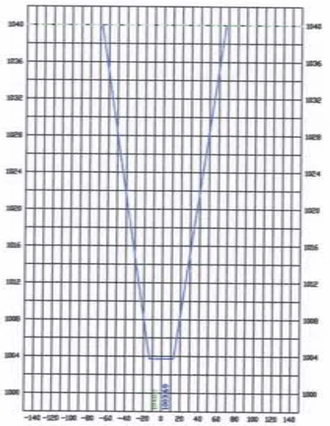
300+00



310+00



320+00



SGR - Modified Medina Dam Route

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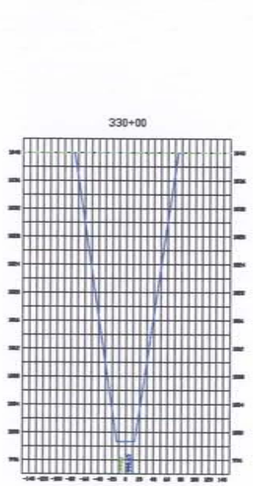
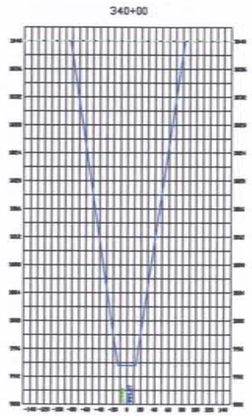
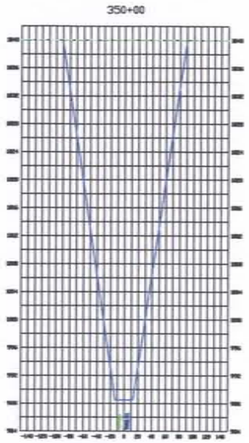
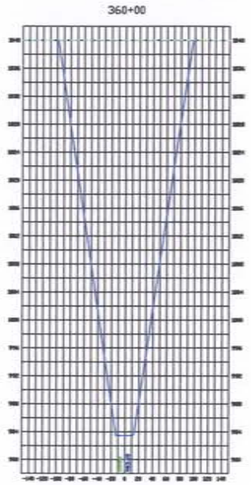
Existing Elevation

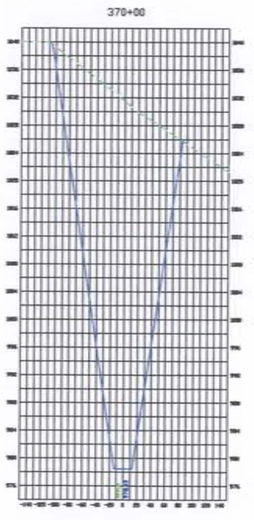
Proposed Elevation

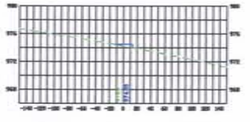


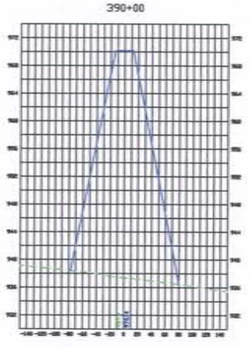


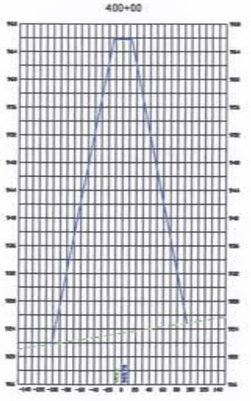












SGR - Modified Medina Dam Route

Notes:

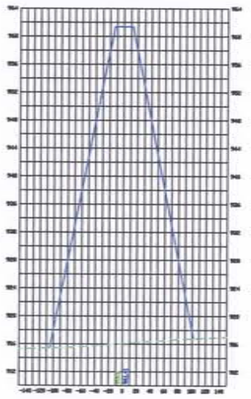
1) Profiles are vertically exaggerated

2) Profiles subject to revision in accordance with final engineering design

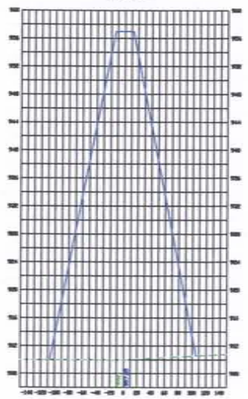
Existing Elevation

Proposed Elevation

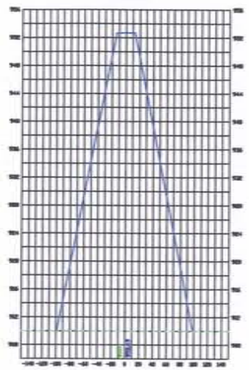
410+00



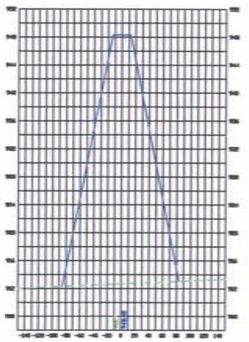
420+00



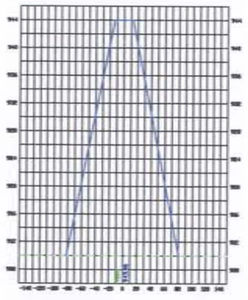
430+00



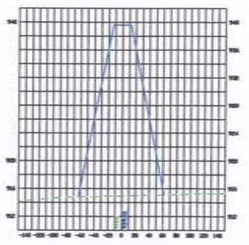
440+00



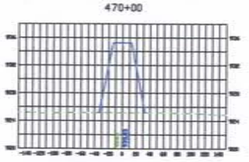
450+00



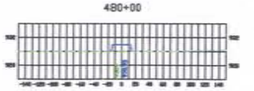
460+00



470+00



480+00



SGR - Modified Medina Dan Route

Notes:

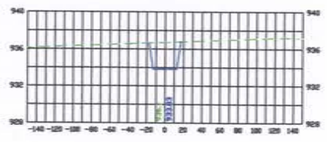
1) Profiles are vertically exaggerated

2) Profiles subject to revision in accordance with final engineering design

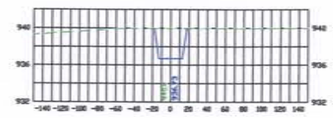
Existing Elevation

Proposed Elevation

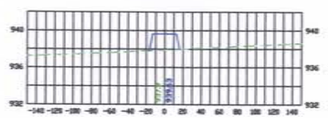
490+00



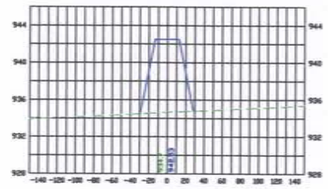
500+00



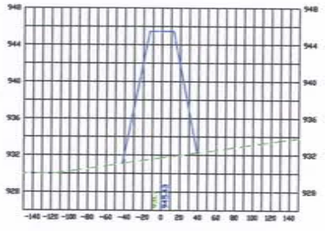
510+00



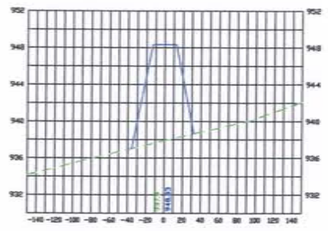
520+00



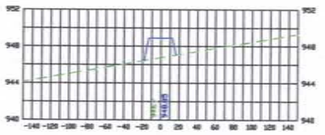
530+00



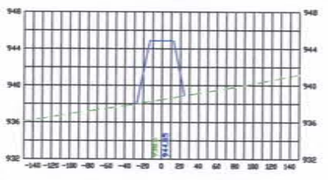
540+00



550+00



560+00



SGR - Modified Medina Dam Route

Notes:

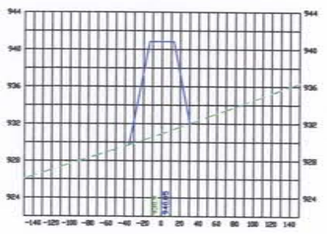
1) Profiles are vertically exaggerated

2) Profiles subject to revision in accordance with final engineering design

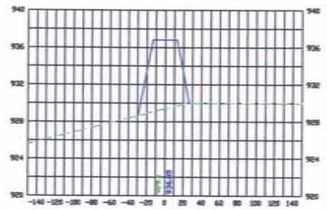
Existing Elevation

Proposed Elevation

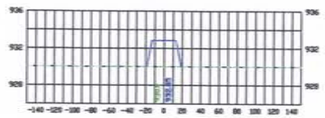
570+00



580+00



590+00



SGR – Modified Medina Dam Route

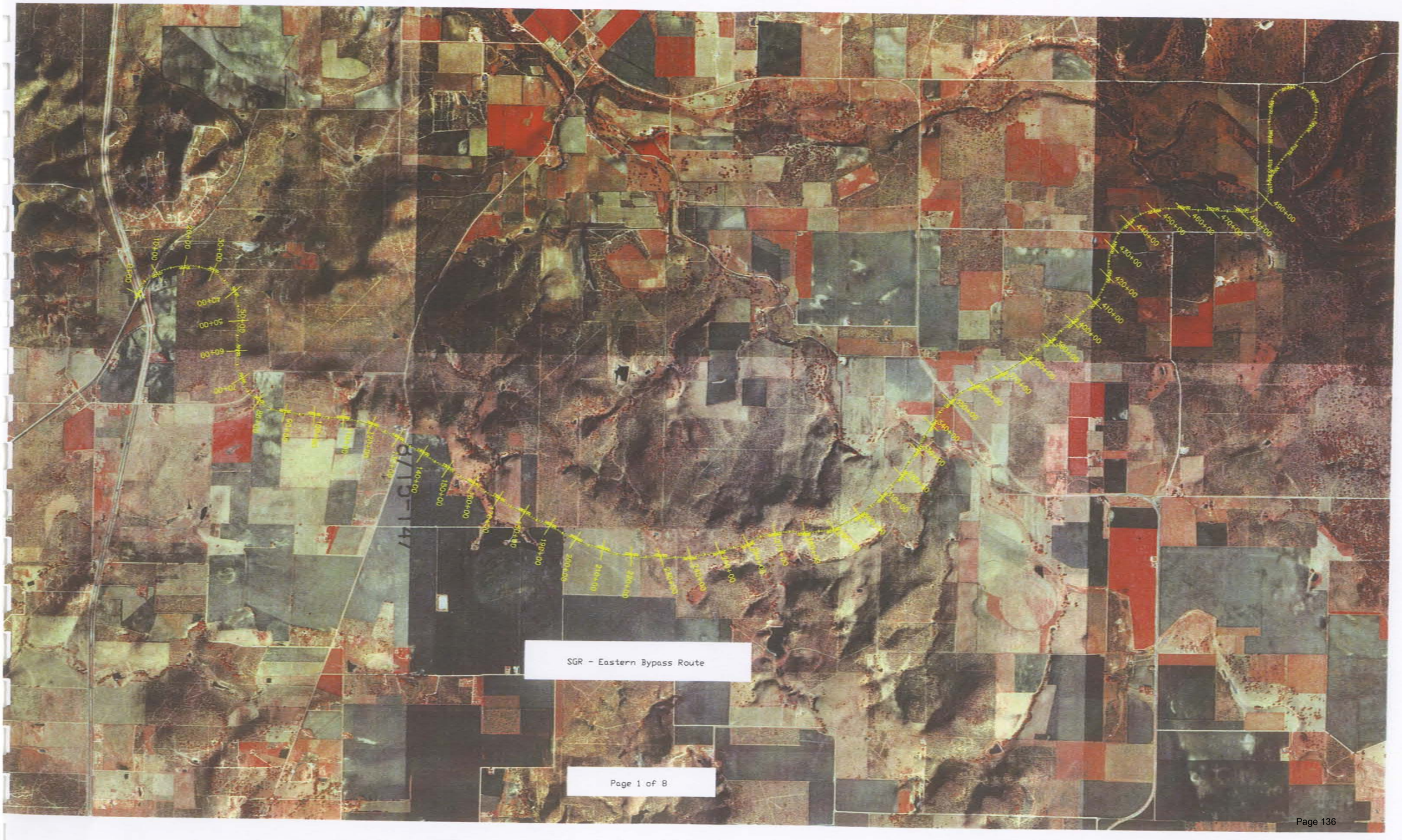
Notes:

1) Profiles are vertically exaggerated

2) Profiles subject to revision in accordance with final engineering design

Existing Elevation

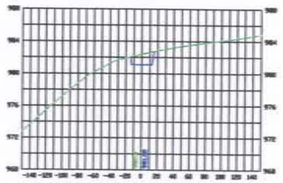
Proposed Elevation


SGR - Eastern Bypass Route

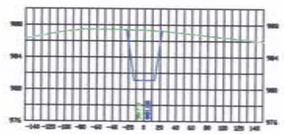
SGR - Eastern Bypass Route
Top of Rail Bed Profile

Cut

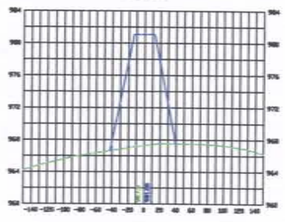
10+00



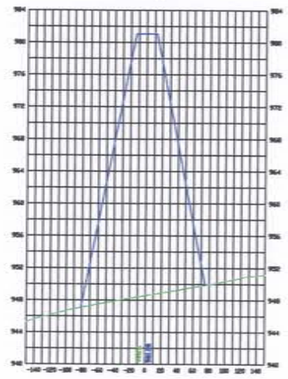
20+00



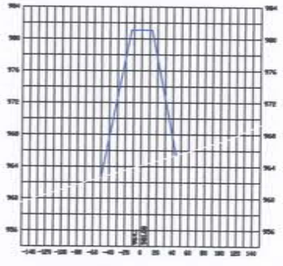
30+00



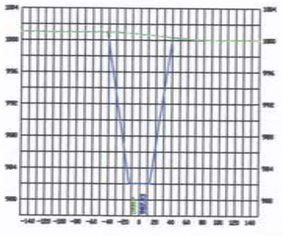
40+00



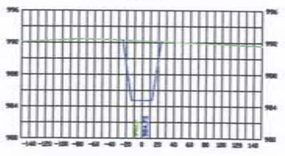
50+00



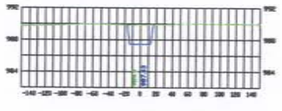
60+00



70+00



80+00



SGR - Eastern Bypass Route

Notes:

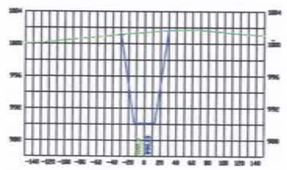
1) Profiles are vertically exaggerated

2) Profiles subject to change in accordance with final engineering design

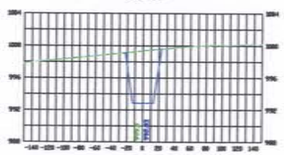
Existing Elevation

Proposed Elevation

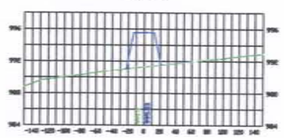
90+00



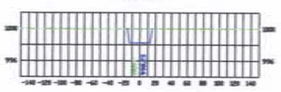
100+00



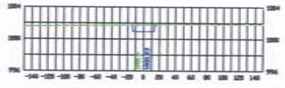
110+00



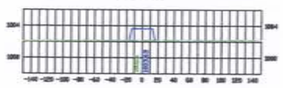
120+00



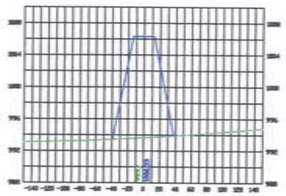
130+00



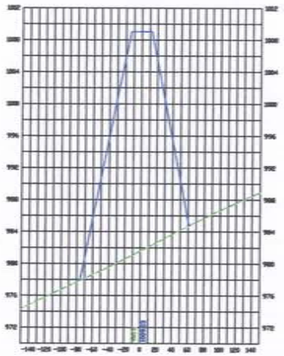
140+00



150+00



160+00



SGR - Eastern Bypass Route

Notes:

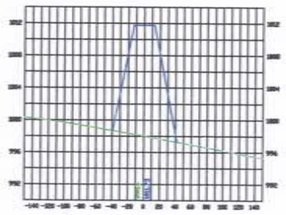
1) Profiles are vertically exaggerated

2) Profiles subject to change in accordance with final engineering design

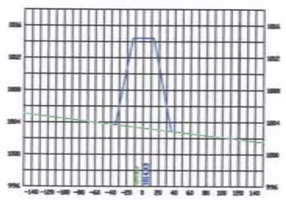
Existing Elevation

Proposed Elevation

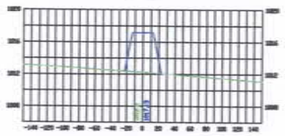
170+00



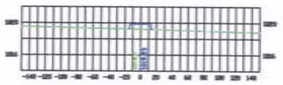
180+00



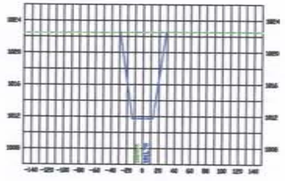
190+00



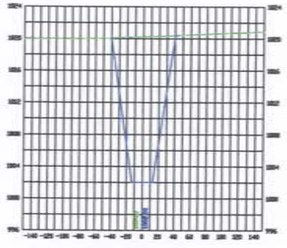
200+00



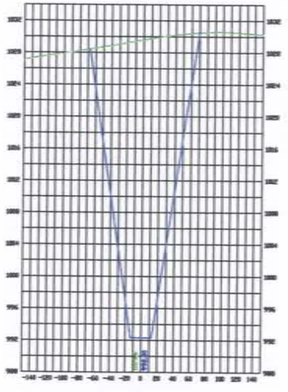
210+00



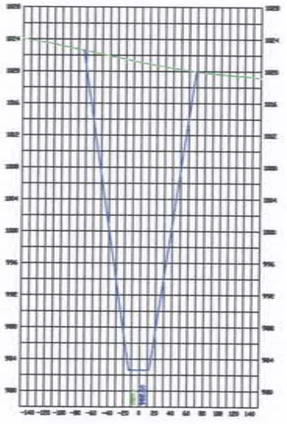
220+00



230+00



240+00



SGR - Eastern Bypass Route

Notes:

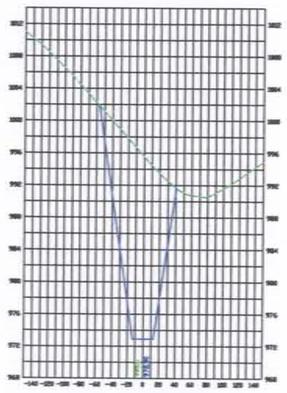
1) Profiles are vertically exaggerated

2) Profiles subject to change in accordance with final engineering design

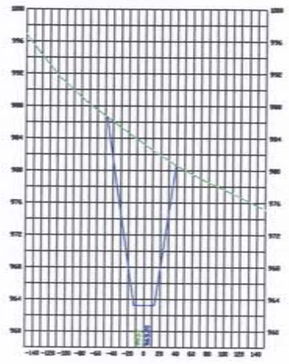
Existing Elevation

Proposed Elevation

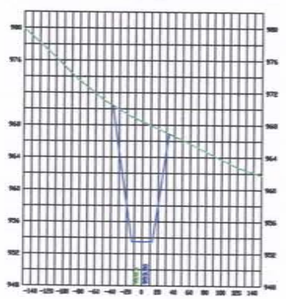
250+00



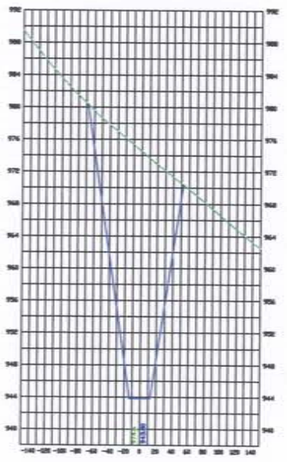
260+00



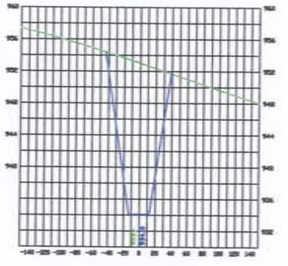
270+00



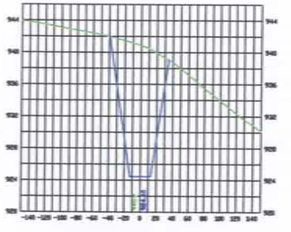
280+00



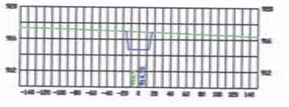
290+00



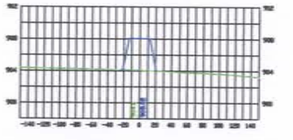
300+00



310+00



320+00



SGR - Eastern Bypass Route

Notes:

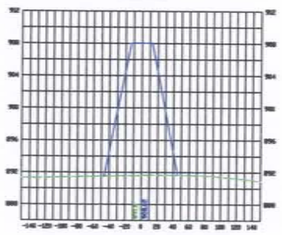
1) Profiles are vertically exaggerated

2) Profiles subject to change in accordance with final engineering design

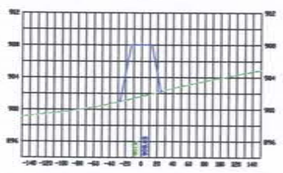
Existing Elevation

Proposed Elevation

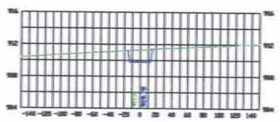
330+00



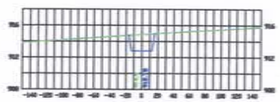
340+00



350+00



360+00



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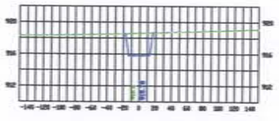

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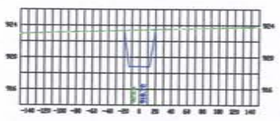

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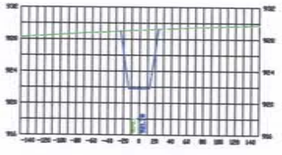

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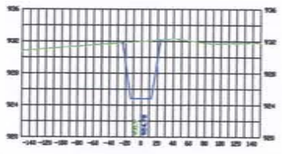


SGR - Eastern Bypass Route

Notes:

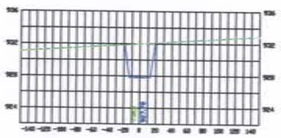
1) Profiles are vertically exaggerated

2) Profiles subject to change in accordance with final engineering design

Existing Elevation

Proposed Elevation

410+00



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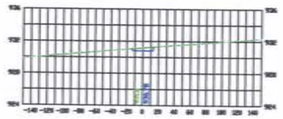

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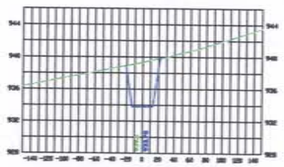

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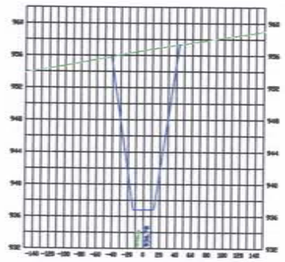

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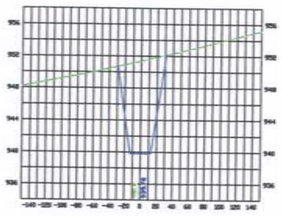

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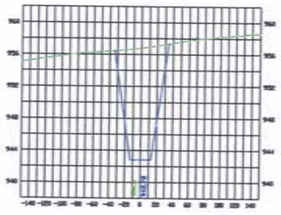

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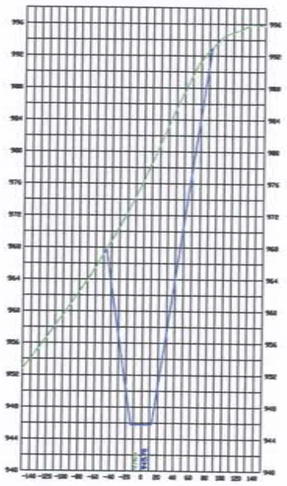

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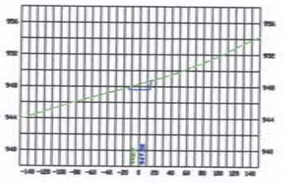


SGR - Eastern Bypass Route

Notes:

1) Profiles are vertically exaggerated

2) Profiles subject to change in accordance with final engineering design

Existing Elevation

Proposed Elevation

Southwest Gulf Railroad Company
Proposed and Alternate Railroad Routes

Sample Cut/Fill volume calculations[1]

Station	Areas Square Feet		Volumes Cubic Yards		Cumulative Cubic Yards	
	Cut	Fill	Cut	Fill	Cut	Fill
0+00	0.00	0.00	0.00	0.00	0.00	0.00
0+50	2.00	1.25	34.32	1.15	34.32	1.15
1+00	35.06	0.00	137.90	0.00	172.22	1.15
1+50	113.87	0.00	243.24	0.00	415.46	1.15
2+00	148.84	0.00	261.80	0.00	677.26	1.15
2+50	133.91	0.00	178.07	0.00	855.33	1.15
3+00	58.41	0.00	110.62	0.00	965.95	1.15
3+50	61.07	0.00	123.34	0.00	1089.29	1.15
4+00	72.14	0.00	128.41	0.00	1217.70	1.15
4+50	66.54	0.00	125.67	0.00	1343.37	1.15
5+00	69.18	0.00	136.19	0.00	1479.56	1.15

The preliminary Cut/Fill volumes calculations were devolped utilizing a civil engineering computer software program (Land Development Desktop). The application calculates the areas by establishing the extents of the areas to be developed (i.e., length and width)[2]. The depth of the cuts and/or height of fill is determined by comparing the existing contours with the proposed elevations of the area(s) being considered for development.

This iterative process is based on the simple mathematical equation:

$$V = (L \times W \times D) \div 27$$

Where:

V = Volume in Cubic Yards
L = Length in Feet
W = Width in Feet
D = Depth or Height in Feet

1. Actual volume calcuations from the proposed route alignment
2. Avergae End Area method

#EI-1715
RY

STEPTOE & JOHNSON LLP

ATTORNEYS AT LAW

David H. Coburn
202.429.8063
dcoburn@steptoe.com

1330 Connecticut Avenue, NW
Washington, DC 20036-1795
Tel 202.429.3000
Fax 202.429.3902
steptoe.com

October 25, 2005

VIA HAND DELIVERY

Ms. Victoria Rutson
Chief
Section of Environmental Analysis
Surface Transportation Board
1925 K Street, N.W.
Washington, D.C. 20423

Re: STB Finance Docket No. 34284, Southwest Gulf Railroad Company – Construction and Operation Exemption – Medina County, TX

Dear Ms. Rutson:

This will supplement my September 7, 2005 letter on behalf of Southwest Gulf Railroad responding to SEA's information request letter.

At page 4 of the September 7 letter, SGR stated that the Eastern Route discussed in the letter would traverse a subdivision known as Castroville West. In that regard, I have attached a copy of a map of that subdivision and the official plat document concerning the subdivision drawn from the files of the Medina County plat records. The attached map shows the twenty plots into which the property has been subdivided for residential development and the size of each plot. These records were copied from Volume 7, pages 227 and 228 of the plat records of Medina County, maintained at the County Courthouse in Hondo, TX.

As shown on the Exhibit 4 map accompanying SGR's September 7 submission, the Eastern Route would traverse the Castroville West subdivision. The Route would run through the subdivision in a generally north/south orientation in an area somewhat near the center or slightly to the east of the center of the subdivision.

With respect to the alternative routes, Exhibit 3 accompanying the September 7 letter showed the length of Alternative 1 as 10.6 miles. In fact, Alternative 1 is 9.28 miles long. The error in the Exhibit occurred when SGR inadvertently included in the calculation of the length of Alternative 1 (but

not in the calculation of the length of the other alternatives shown on that Exhibit) the loading loop track. A revised Exhibit 3 is attached to this letter.

Please let me know if you have any questions.

Sincerely,

David H. Coburn
Attorney for Southwest Gulf Railroad

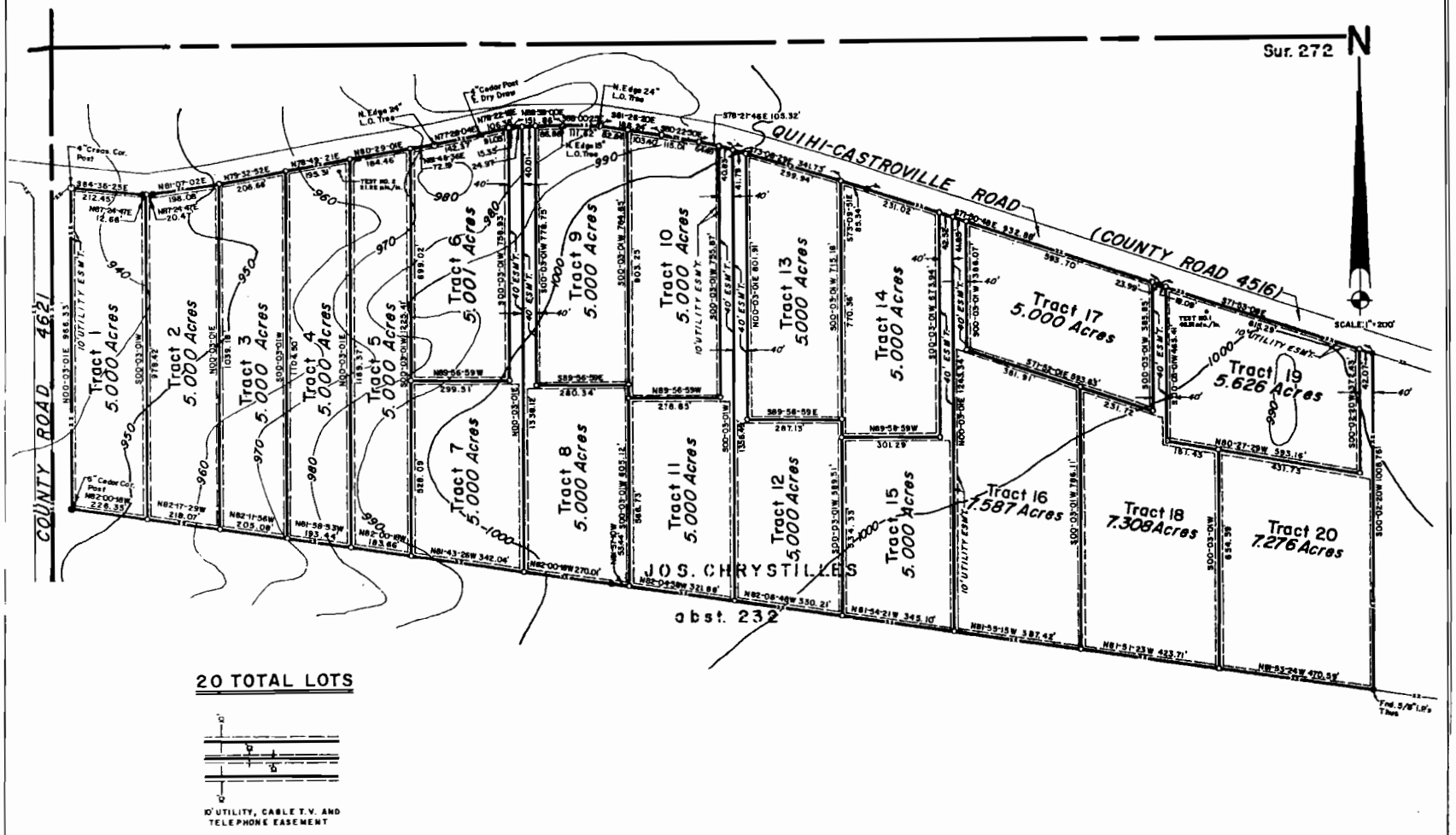
cc: Ms. Rini Ghosh
Ms. Jaya Zyman-Ponebshek

REVISED EXHIBIT 3

Southwest Gulf Railroad Company
Preliminary Proposed and Alternative Rail Routes Data

Description	Approx. top of rail bed elevation		Length of Rail (miles)
	UPRR Track	Quarry Entry	
Proposed Route	980.50	931.20	7.50
Alternative 1	959.50	931.20	9.28
Alternative 2	933.20	931.20	7.23
Alternative 3	979.80	931.20	7.90
Modified Medina Dam Route	981.10	931.20	11.24
Eastern Route	981.00	931.20	9.01

MEDINA COUNTY, TEXAS



Original submitted in 8 1/2 x 11 inch size.

MEDINA COUNTY, TEXAS

A SUBDIVISION PLAT OF

CASTROVILLE WEST SUBDIVISION

53360

BEING 107.798 ACRES OF LAND SITUATED ABOUT 9.7 MILES N 80° E OF HONDO, IN MEDINA COUNTY, TEXAS, OUT OF SURVEY NO. 272, ABSTRACT NO. 232, JOSEPH CHRYSTILLES, ORIGINAL GRANTEE, BEING THAT SAME PROPERTY DESCRIBED IN A DEED TO NOONER ZERR, INC. FROM ROBERT E. BROWNING, ET UX, DATED APRIL 21, 1993, AS RECORDED IN VOLUME 193 ON PAGE 509 OF THE OFFICIAL PUBLIC RECORDS OF MEDINA COUNTY, TEXAS.

STATE OF TEXAS
COUNTY OF MEDINA

THE OWNERS OF THE PROPERTY SHOWN ON THIS PLAT AND WHOSE NAMES ARE SUBSCRIBED HERETO AND IN PERSON OR THROUGH A DULY AUTHORIZED AGENT DEDICATES TO THE USE OF THE PUBLIC FOREVER ALL STREETS, ALLEYS, PARKS, WATER COURSES, DRAINS, EASEMENTS, AND PUBLIC PLACES THEREON SHOWN FOR THE PURPOSE AND CONSIDERATION THEREIN EXPRESSED.

NOONER ZERR, INC.

Sammy Nooner
SAMMY NOONER - OWNER

J. STEPHEN ZERR - OWNER

STATE OF TEXAS
COUNTY OF MEDINA

BEFORE ME, THE UNDERSIGNED AUTHORITY, ON THIS DAY PERSONALLY APPEARED, SAMMY NOONER, KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT, AND ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATIONS THEREIN EXPRESSED AND IN THE CAPACITY THEREIN STATED. GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS THE 28th DAY OF June, 1993.

Claudia J. Sanford
NOTARY PUBLIC

STATE OF TEXAS
COUNTY OF MEDINA

BEFORE ME, THE UNDERSIGNED AUTHORITY, ON THIS DAY PERSONALLY APPEARED, J. STEPHEN ZERR, KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT, AND ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATIONS THEREIN EXPRESSED AND IN THE CAPACITY THEREIN STATED. GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS THE 28th DAY OF June, 1993.

Claudia J. Sanford
NOTARY PUBLIC

STATE OF TEXAS
COUNTY OF MEDINA

I HEREBY CERTIFY THAT THIS PLAT IS TRUE AND CORRECT AND WAS PREPARED FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION ON THE GROUND.

REGISTERED PROFESSIONAL SURVEYOR

SWORN TO AND SUBSCRIBED BEFORE ME THIS THE 28th DAY OF June, 1993.

Claudia J. Sanford
NOTARY PUBLIC

STATE OF TEXAS
COUNTY OF MEDINA

I HEREBY CERTIFY THAT PROPER ENGINEERING CONSTRUCTION HAS BEEN GIVEN THIS PLAT TO THE MATTERS OF STREETS, LOTS AND LAYOUT, AND TO THE BEST OF MY KNOWLEDGE THIS PLAT CONFORMS TO ALL REQUIREMENTS OF THE SUBDIVISION ORDINANCES, EXCEPT FOR THOSE VARIANCES THAT MAY HAVE BEEN GRANTED BY THE COMMISSIONERS' COURT OF MEDINA COUNTY TEXAS.

REGISTERED PROFESSIONAL ENGINEER

SWORN TO AND SUBSCRIBED BEFORE ME THIS THE 28th DAY OF June, 1993.

Claudia J. Sanford
NOTARY PUBLIC

STATE OF TEXAS
COUNTY OF MEDINA

THE COUNTY JUDGE OF MEDINA COUNTY CERTIFIES THAT THIS SUBDIVISION PLAT HAS BEEN CONSIDERED AND APPROVED THIS THE 19 DAY OF July, 1993.

COUNTY JUDGE

STATE OF TEXAS
COUNTY OF MEDINA

THE COUNTY COMMISSIONER OF MEDINA COUNTY PRECINCT ___ HEREBY CERTIFIES THAT THIS SUBDIVISION PLAT CONFORMS TO ALL REQUIREMENTS OF THE SUBDIVISION REGULATIONS OF THE COUNTY AS TO WHICH HIS APPROVAL IS REQUIRED, THIS THE 19 DAY OF July, 1993.

COUNTY COMMISSIONER

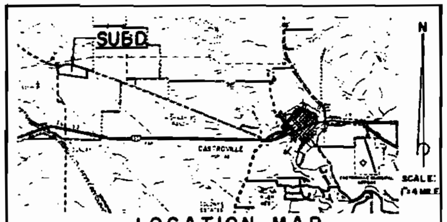
STATE OF TEXAS
COUNTY OF MEDINA

I, ANNA VAN DE WALLE, COUNTY CLERK OF SAID COUNTY, DO HEREBY CERTIFY THAT THIS PLAT WAS FILED FOR RECORD IN MY OFFICE ON THE ____ DAY OF ____________, 1993 AT ______M. AND DULY RECORDED IN THE RECORDS OF PLATS OF SAID COUNTY, IN VOLUME ______ ON PAGE ______ IN TESTIMONY WHEREOF. WITNESS MY HAND AND OFFICIAL SEAL OF OFFICE THIS THE ____ DAY OF ____________, 1993.

ANNA VAN DE WALLE
COUNTY CLERK, MEDINA COUNTY, TEXAS

THE SUBJECT PROPERTY IS LOCATED OUTSIDE THE LIMITS OF ANY 100 YEAR FLOOD ZONE AS SHOWN ON THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP, MEDINA COUNTY, TEXAS (UNINCORPORATED AREAS), COMMUNITY PANEL NUMBER 480472 0175 B, EFFECTIVE DATE: AUGUST 15, 1980.

20 TOTAL LOTS



LOCATION MAP

Original submitted in 8½ x 11 inch size.

EP 1716 (291)

STEPTOE & JOHNSON LLP

ATTORNEYS AT LAW

David H. Coburn
202.429.8063
dcoburn@steptoe.com

1330 Connecticut Avenue, NW
Washington, DC 20036-1795
Tel 202.429.3000
Fax 202.429.3902
steptoe.com

October 27, 2005

VIA HAND DELIVERY

Ms. Victoria Rutson
Chief
Section of Environmental Analysis
Surface Transportation Board
1925 K Street, N.W.
Washington, D.C. 20423

Re: STB Finance Docket No. 34284, Southwest Gulf Railroad Company – Construction and Operation Exemption – Medina County, TX

Dear Ms. Rutson:

This will supplement my September 15, 2005 letter on behalf of Southwest Gulf Railroad forwarding the Eastern Route cultural resources report prepared by GTI Environmental, SGR's cultural resources consultants. GTI has now determined that some of the figures in its report contained a small error due to a recently discovered issue with respect to the georeferencing process used. A revised Report is attached, and the changes to the Report are discussed below.

Specifically, GTI has advised that it georeferenced historic county maps, topo maps, and aerial photographs for the proposed eastern route using control points within the immediate area surrounding the Eastern Route. Any geographic information system software will complete the georeferencing by rubber sheeting the maps as layers superimposed over one another. Rubber sheeting is a process under which the maps are stretched to create a consistent scale. After submission of its Report on September 15, GTI decided to incorporate additional control points which include the project area surrounding the other alternative alignments that SEA had considered in the Draft EIS. GTI did so because it noticed a small discrepancy in the location of the APE of the Eastern Route between where the APE showed up on the historic maps versus where it showed up on the aerial photographs. As a result of the use of the additional control points, the rubber sheeting process removed the discrepancy and created a more accurate depiction of the location of the historic property boundaries in relation to the Eastern Route. This also created a slight shift toward the west in the location of the portion of the Eastern Route nearest its northern terminus in relation to the historic maps. As a result of this shift, two additional historic

property boundaries (but no additional historic structures) were determined to fall within the APE of the Eastern Route. This can be seen on the revised version of Figure 6, which shows that the APE now incorporates two properties in the area just west of the loading loop that were not incorporated in the original version of Figure 6. Also, two additional structures less than 50 years old are now within or near the APE. These have been designated as structures K and L on Figure 15.

In the attached revised Report, each of the figures (number 1 through 15) have been corrected to reflect the slight westward shift in the Eastern Route, and its APE. As noted, structures K and L, both less than fifty years old, have been added to Figure 15. In addition, the following changes were made to the Report: (1) the last line on the first paragraph of page 24 has been revised to change the reference to non-historic "Structures A-J" to Structures "A-L"; (2) the first paragraph on page 34 has been revised to change from 19 to 21 the number of properties identified within the proposed APE or within 200 yards of the APE; to change from ten to twelve the number of structures constructed in the last fifty years and to change the references to "Structures A through J" to "Structures A through L"; and (3) in the second full paragraph on page 43, the reference to ten buildings less than fifty years old has been changed to twelve buildings and the reference to six of these buildings being inside the designated APE has been changed to seven such buildings inside the designated APE.

None of the above changes have any bearing on either the findings with respect to historic properties or the recommendations in the Report. However, we did want to correct the record to reflect the above changes to the Report. Please let me know if you have any questions.

Sincerely,

David H. Coburn
Attorney for Southwest Gulf Railroad

cc: Ms. Rini Ghosh
Ms. Jaya Zyman-Ponebshek

González, Tate & Iruegas, Inc.
Environmental Consultants

A Cultural Resources Reconnaissance Survey for an Eastern Route, Medina County, Texas

Prepared For:

Southwest Gulf Railroad

Finance Docket No. 34284

Prepared By:

González, Tate & Iruegas, Inc.

Principal Investigator
Sergio A. Iruegas, RPA

Authors:

Sergio A. Iruegas, R.P.A.
Monica Penick

August 2005

8127 Mesa Drive
Suite B206, PMB117
Austin, Texas 78759

Voice: 512-420-9919
Fax: 512-420-9916
Email: gti@gtienvironmental.com

Abstract

This document reports the results of a reconnaissance cultural resources survey for an eastern route east of Quihi in Medina County, Texas. This route is separate from the alternative alignments considered by the Surface Transportation Board (STB) in the draft Environmental Impact Statement (Finance Docket No. 34284). Prior to initiating fieldwork, SGR submitted a proposed scope of work to the Texas Historical Commission (THC) for review which was approved on July 15, 2005. The report was prepared for Surface Transportation Board's (STB) and THC's consideration of this proposed project's possible affects to cultural resources.

This reconnaissance survey report assesses cultural resources in terms of archeological and historic properties. Accordingly, a sufficient level of background research was conducted for both types of resources prior to initiating field investigations. After reviewing the THC's 7.5 minute topographic maps files, there were no documented archeological sites or historic properties with the Area of Potential Effect (APE) of the eastern route. Mr. Sergio Iruegas (RPA) and Ms. Monica Penick reviewed historic maps of Medina County in the Texas General Land Office historic map archives, as well as historic and current aerial photographs of the project area. Field investigations of the eastern route were limited to access areas directly adjacent to farm to market road and county roads. The survey confirms the presence of high and moderate probability areas where buried archeological resources are likely to be present and the presence of nine historic structures that are potentially eligible for listing on the National Register of Historic Places.

It is GTI's opinion that intensive cultural resource investigations are warranted within the eastern route APE to fully document the cultural resources, if STB approves this route and the Programmatic Agreement is in place. It should be noted that since cultural materials were not observed, there are no curation issues.

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List of Photographs

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Introduction

This document reports the results of a reconnaissance cultural resources survey for an eastern route for the Southwest Gulf Railroad's (SGR) east of Quihi in Medina County, Texas. This route is separate from the alternative alignments considered by the Surface Transportation Board (STB) in the draft Environmental Impact Statement (Finance Docket No. 34284). Although this eastern route would begin at the juncture of the UP Rail line just north of Highway 90 and terminates at the proposed rail loop, the majority of the route is approximately two to three miles east of Quihi and approximately three to four miles southeast and northeast of Quihi. Prior to initiating fieldwork, SGR submitted a proposed scope of work to the Texas Historical Commission (THC) for review which was approved on July 15, 2005. The Area of Potential Effect (APE) was 1200 feet on both sides of the suggested route (See Figure 1). The report was prepared for Surface Transportation Board's (STB) and THC's consideration of an eastern route's possible affects to cultural resources. This reconnaissance survey report assesses cultural resources in terms of archeological and historic properties.

In the mid 1800s, Henri Castro, a French impresario under contract with the Republic of Texas, introduced a large number of French and German settlers into Medina County. Along with Castroville, Quihi was one of Castro's earliest settlements. Accordingly, a sufficient level of background research was conducted for archeological and historic properties resources prior to initiating field investigations. After reviewing the THC's 7.5 minute topographic maps files, there were no documented archeological sites or historic properties within the APE of the eastern route. A qualified archeologist (Sergio A. Iruegas, RPA) and architectural historian (Monica Penick) that meet the Secretary of the Interiors Standards and Guidelines for Archeology and Historic Preservation reviewed historic maps and aerial photographs of the project area. The Texas General Land Office historic map archives contained an 1846 survey of the Quihi area, an 1850 Map of Castro's Colony, and the 1862, 1878, 1880, and 1895 Medina County maps. Mr. Iruegas and Ms. Penick also reviewed historic and current aerial photographs of the project area dating from 1940, 1952, 1964, 1996, and 2004. These maps and aerial photographs were reviewed to determine settlement patterns, the presence of any extant historic structures or cemeteries, and the likelihood of establishing historic districts or rural historic landscapes. The historic maps and photos also enabled Mr. Iruegas and Ms. Penick to establish historic property boundaries that may have remained the same over time thereby indicating possible high probability areas where historic archeological sites may be present. Mr. Iruegas also reviewed the topographic setting on USGS quadrangle maps to establish high probability areas where buried prehistoric cultural deposits were likely to be present.

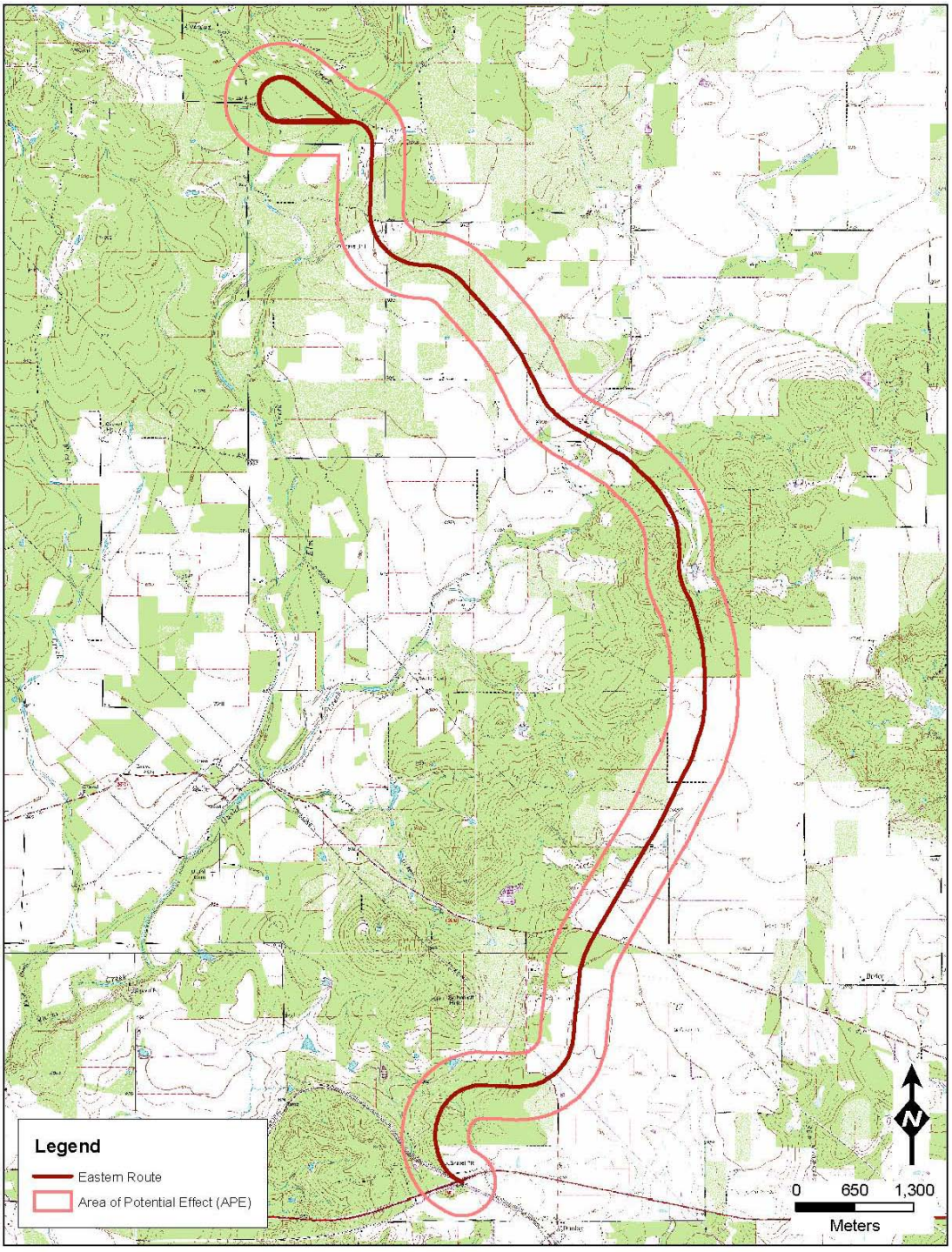

Figure 1: Location of Southwest Gulf Railroad Eastern Route

Field investigations of the eastern route were limited to access areas directly adjacent to farm to market road and county roads. The reconnaissance survey was conducted by Sergio A. Iruegas and Monica Penick, and the results confirm the presence of high and moderate probability areas where buried archeological resources are likely to be present and the presence of nine historic structures potentially eligible for listing on the National Register of Historic Places. It is GTI's opinion that intensive cultural resource investigations are warranted within the eastern route APE, if STB approves this route and the Programmatic Agreement is in place. It should be noted that since cultural materials were not observed, there are no curation issues.

Archeological Investigations

The archeological reconnaissance survey was conducted concurrent with the historic structure survey. This section of the report contains an archival review section and regional chronology for central Texas. Archeologists anticipated that historic and prehistoric sites may be encountered because of the long history of property boundaries remaining the same over time and because of recent excavations by the South Texas Archeological Association in the general area that were reported to have encountered cultural materials that span the time ranges in the regional chronology. High probability areas where archeological sites were likely to be present were developed prior to field investigations and included on a map of the project area with the scope of work approved by the THC. The survey results are reported below.

Archival Review

Mr. Sergio Iruegas reviewed the THC Atlas database. There were no recorded archeological sites within the project area. Archeologists also reviewed an 1846 survey of the Quihi area, an 1851 Map of Castro's Colony, and the 1862, 1873, 1880, and 1895 Medina County maps at the Texas General Land Office (GLO) historic map archives (See Figures 2-7). Historic and current aerial photographs from 1940, 1952, 1964, 1996, and 2004 (See Figures 8-12) of the project area were reviewed in conjunction with the historic maps at the GLO for potential extant historic structures and cemeteries, as well as establish historic property boundaries that may have remained the same over time thereby indicating possible high probability areas where historic archeological sites may be present, particularly those associated with important historical persons (See Table 1). Archeologists reviewed the topographic setting on USGS quadrangle maps to establish high probability areas where buried prehistoric cultural deposits were likely to be present.

The aerial photographs indicate that in 1940 land use for agricultural purposes was greater north of Quihi Creek with minor use south of the creek. The 1952 aerial photograph clearly shows the remnants of the Old Medina Dam route with some agricultural land use south of the creek. Between the years of 1952 to 1964, development of the land south of the creek becomes more prevalent further away from the creek. As early as 1940, there is a swath of land that runs in a northeast to southwest direction paralleling Quihi Creek that is not used over time in all probability because the topographic setting slopes greatest in this area. This undeveloped swath of land is bounded by limited agricultural use just south of the creek and the area further southeast where more intensive agricultural land development becomes more prevalent over time.

Table 1: Property Owners Listed on the Historic Medina County Maps

1846	1851	1862	1873	1880	1895
	Tract not delineated.	Tract not delineated.	Tract not delineated	51, M.A. (Martha A.) Oliver , S.40107, F.35288, , F.18104	52, (M.B.O.), (C-40107), 35288, ptd.
	A. Desatin Sr., 494, 3.2360, ptd.	D.I., Antoine Desalras, 494, 3.2360, ptd.	Not Legible	Antoine Desalin o, 494, 3.2360, ptd.	Antoine Desadras Sr.; 494, 3.2360, ptd.
	R. Cordier, 497, 3.4651, ptd.	D.I. Remi Cardier, 497, 3.4651, ptd.	Remi Cardier, ____, ____, ptd.	Remi Cardier, 497, 3._651, ptd.	Remi Cardier, 497, 3.4651, ptd.
	495	D.I. B. Barth, 465, 3.6646, ptd.	B. Barth, ____, ____, ____	B. Barth, 495, 3.6646, 495, ptd.	B. Barth, 495, 3.6646, ptd.
	John Grossenbach, 4_7, 3.4557, ptd.	D.I. John _ Grossenbach, 407, 3.4557, ptd.	_____ __ossenbach, __, _____7, ptd.	John Grossenbach, 50, 3.4557, ptd.	___ Sre_enbach, 50, 3.45__, ptd.
	Jacob Benderle, 15, 3.1290, ptd.	D.I. Jacob Benderle sr., 25, 3.1290, ptd.	Jacob Benderly, __, 3.__90, ptd.	Jacob Benderly, 25, 3.1290, ptd.	Jacob Benderly, 25, 3.1290, ptd.
	Jacob Benderle, 14, 3.1290, ptd.	D.I. Jacob Benderle sr., 24, 3.1290, ptd.	Jacob Benderly, 24, 3.__90, ptd.	Jacob Benderly, 24, 3.1290, ptd.	Jacob Bendents, 24, 3.1290, ptd.
	N.Hoffman, 16, 3.1250, ptd.	D.I. Nic. Hoffman, 26, 3.1250	___, Hoffman, __, ___, ptd.	Nic. Hoffman, 26, 3.1250, ptd.	Nic. Hoffman, 26, 3.1250, ptd.
	J. Benderle, __,	D.I. Jac.	___. Ben___,	Jac. Benderly,	Jse. Benderly,

1846	1851	1862	1873	1880	1895
	3.1256, ptd.	Benderle, 23, 3.1256, ptd.	23, 3.____, ptd.	23, 3.1256, ptd.	23, 3.1256, ptd.
J. _ Benedict, 128	J.F. Benedict, , ___, 3.179	John T. Benidicte, 128, Sec. 5, 3.179, ptd.	_____ __ Ben_____, 1_8, ____, ptd.	John T. Bendedict, 128, 3.179, ptd.	Jno. T. Bencollet, 128, 3.179, ptd.
	Jean B. Schmidt, 17, 3.1262, ptd.	D.I. Jean Bapt. Schmidt, 14, 3.1265, ptd.	Jean Bapt. Schmidt, 17, 3.1_65, ptd.	Jean Bapt. Schmidt, 17, 3.1265, ptd.	Jean. Bapt. Schmidt, 17, 3.1265, ptd.
W. Thorp, 127	W, Thorp, 117	Wm Thorp, 127, Sec. _, 3.189, ptd.	Wm Thorp, __7, _____, ptd.	Wm. Thorp, 127, 3.189, ptd.	Wm. Tho__, 127, 3.189, ptd.
J.J. Kayhendoll, 126,	J.J.K_____l, 126	John J. Kaghendoll, 126, 3.18_, ptd.	Kagondell, ___,_____, ptd.	John J. Kaykendall, 126, 3.187, ptd.	Jno. Kerkendoll, 126,3._87, ptd.
Jno. M. Allen, 124	John M. Allen, 124	John M. Allen, 124, Sec 5., D-319, ptd.	_____ Allen, ____, D.319, ptd.	John M. Allen, 124, D.319, ptd.	Jno. Allen, 124, D.319, ptd.
	Jos. Meyer, 22, Int, 3.1994, ptd.	D.I. Joseph Meyer, 22, 3.1994, ptd.	____ Meyer, __, _____, ptd.	Jas. Meyer, , 22, 3.1994, ptd.	Jas. Meyer, 22, 3.1994, ptd.
W.M. Seargent, 123	Wm. Seargent, 123	Wm M. Sergeant, 123, Sec 5, 3.187, ptd.	Not legible	Wm. M. Sergeant, 123, 3.187, ptd.	Wm__. Sergeant, 123, 3.187, ptd.
	An Bischof, 318, 3.5592, ptd.	D.I. Anton Bischof, 318, 3.5592, ptd.	_____, B____, _____, _____, ___	Anton, Bischof, 318, 3.5592, ptd.	Anton Bischof, 318, 3.5592, ptd
	J.M. Peltzer, 364, 3.5752, ptm.	D.I. Jeanette Peltzer, 3.5752	_____ D Peter	364, S.50964, ptd.; D.2317, ptd.; 3.5752	Wm. Peer, 341, S.50964, ptd.
	H. Castro, 314	John Dikres, 314, 3.6435, ptd.	Not Legible	314, 3.6435	Part of Peer property
	344	D.I. Jos. Hagetin, 344, 3.2347, ptd.	Not Legible	344, 3.2347	Part of Peer property
	Ider Bizchhorn, 3.2363, 371, ptd.	Pet Bickhorn, 371, Sec. 6, 3.2363, ptd.	Not Legible	Pet Bickhorn, 371, 3.2363, ptd.	K. Bickhorn, 371, 3.2363, ptd
	Ider Bizchhorn, 3.2363, 371, ptd.	Pet Bickhorn, 371, Sec. 6, 3.2763, ptd.	Not Legible	Pet., Kickhorn, 5, 3.2363, ptd.	_. Bickhorn, 5, 3.2363, ptd
	Jas. Chrystilles, 272, 3.1125, ptd.	D.I. J. Chrystilles,	Not Legible	J. Chrystilles, 272, 3.1125,	J. Chrystilles, 272, 3.__25,

1846	1851	1862	1873	1880	1895
		272, 3.1125, ptd.		ptd.	ptd.
	Jas. Chrystilles, 389, 3.1125, ptd.	D.I. J. Chrystilles, 389, 3.1135, ptd.	Not Legible	J. Chrystilles, 389, 3.1135, ptd.	J. Chrystilles, 389, 3.__35, ptd.
	426	Parceled – Blank	Not Legible	Ptd. S.48140	B. _____, S. __1__, ptd.
	G. Chrystilles, 14_,3.1126, ptd.	D.I. George Chrystilles, 275, 3.1126, ptd.	Not Legible	Geo. Chrystilles, 275, 3.1126, ptd.	Geo. Chrystillis, 275, _.__26, ptd.
	Felix Ménétrier, 276, 3.1414	D.I. Felix Mienetrier, 276, 3.1414, ptd.	Not Legible	Felix Menetrier, 276, 3.1414, ptd.	Felix Mert__r, 276, 3.1414, ptd.
	A. Bonomy, 390, 3.1328, ptd.	D.I., Hrs. of Aug. Bonamy, 390, 3.1328, ptd.	Not Legible	Hrs. of Aug Bonamy, 390, 3.1328, ptd.	Hrs. of A. Bonamy, 390, 3.132_, ptd.

The earliest plated property boundaries were established in the first survey of Medina County in 1846. The ten property owners that show up on the entire survey may be associated with the original ten families that came to settle Quihi, although the settlement itself is approximately three miles southwest of where these property boundaries are located. Each of these property boundaries remains consistent over time up to 1895. One family name in particular is very important. The Kuykendalls were one of Stephen F. Austin's "Old 300" settler family names and the possibility that one of the Kuykendalls moved from Austin Colony and settled within Castro's Colony cannot be overlooked because of the important role the Kuykendall's have in Texas history. The other two important family names are the Schmidt's and Meyer families because they appear on the list of names provided in the historical architecture reconnaissance survey section of this report. It should be noted that Henri Castro's name appears on a property in 1851 which was sold to John Dikres by 1862. The property, however, is within undeveloped land according to the aerial photographs. The majority of the historic property boundaries in the project APE are platted by 1851 and remain consistent over time.

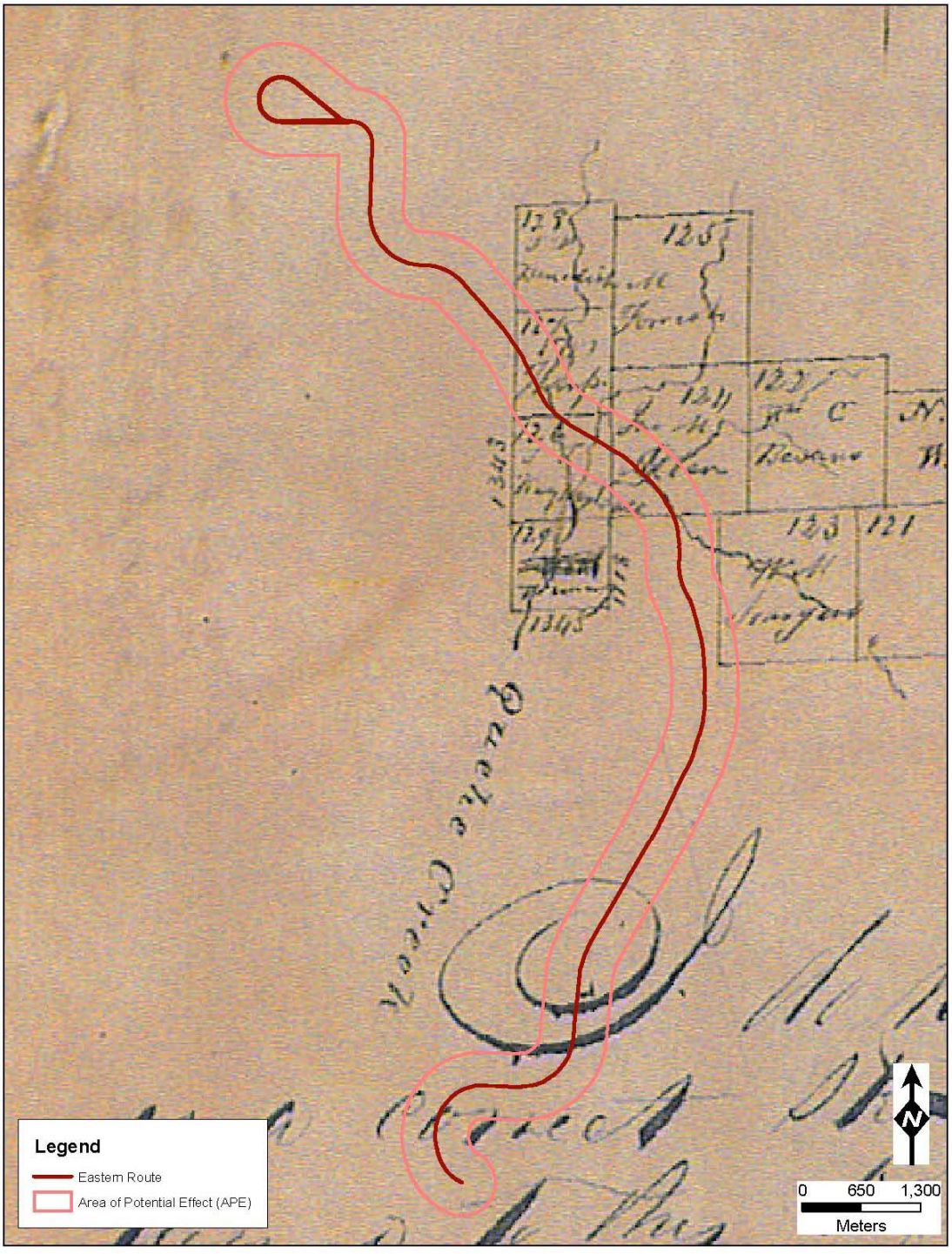

Figure 2: Historic 1846 Medina County Survey Map with Project Area

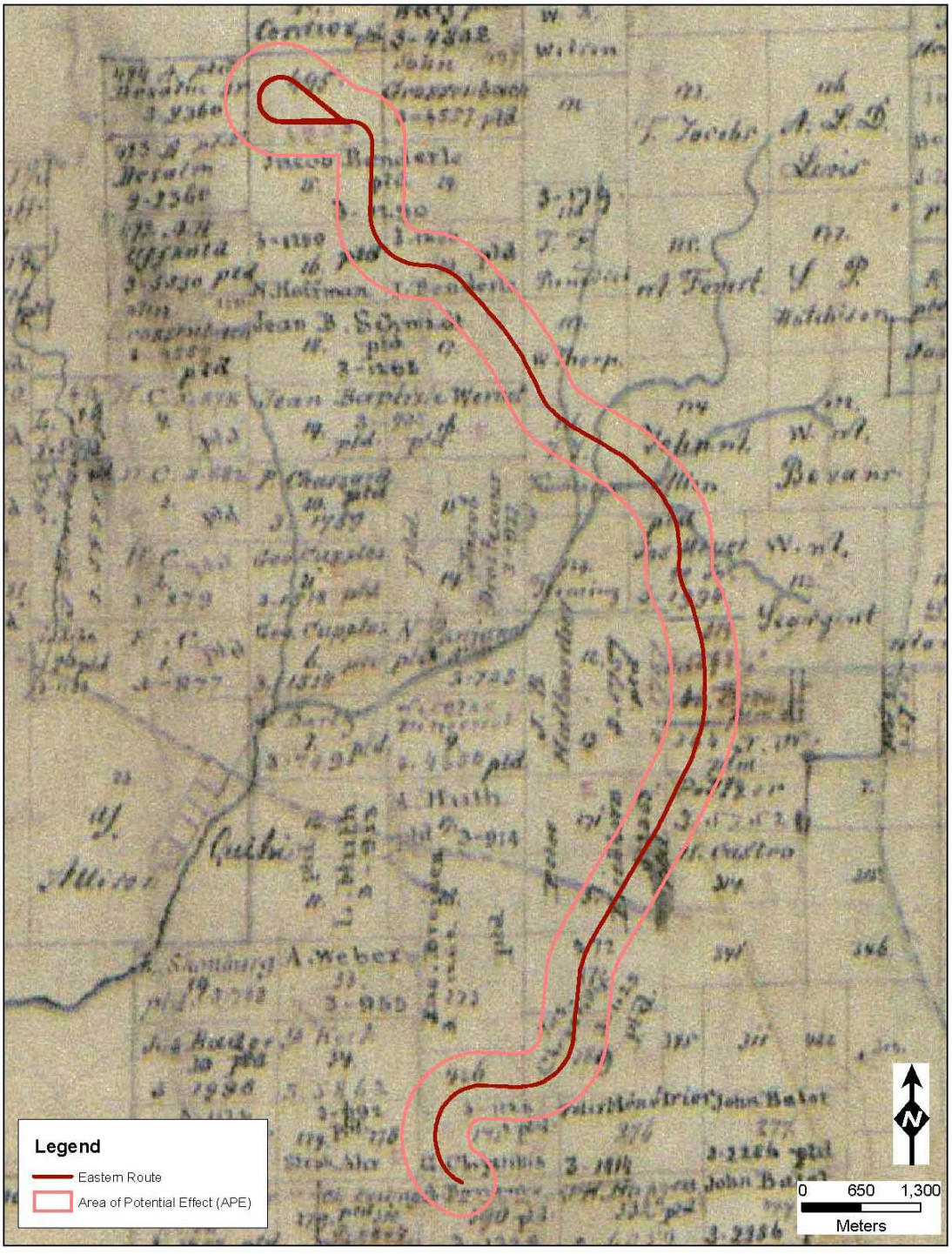

Figure 3: Historic 1851 Castro Colony Map with Project Area

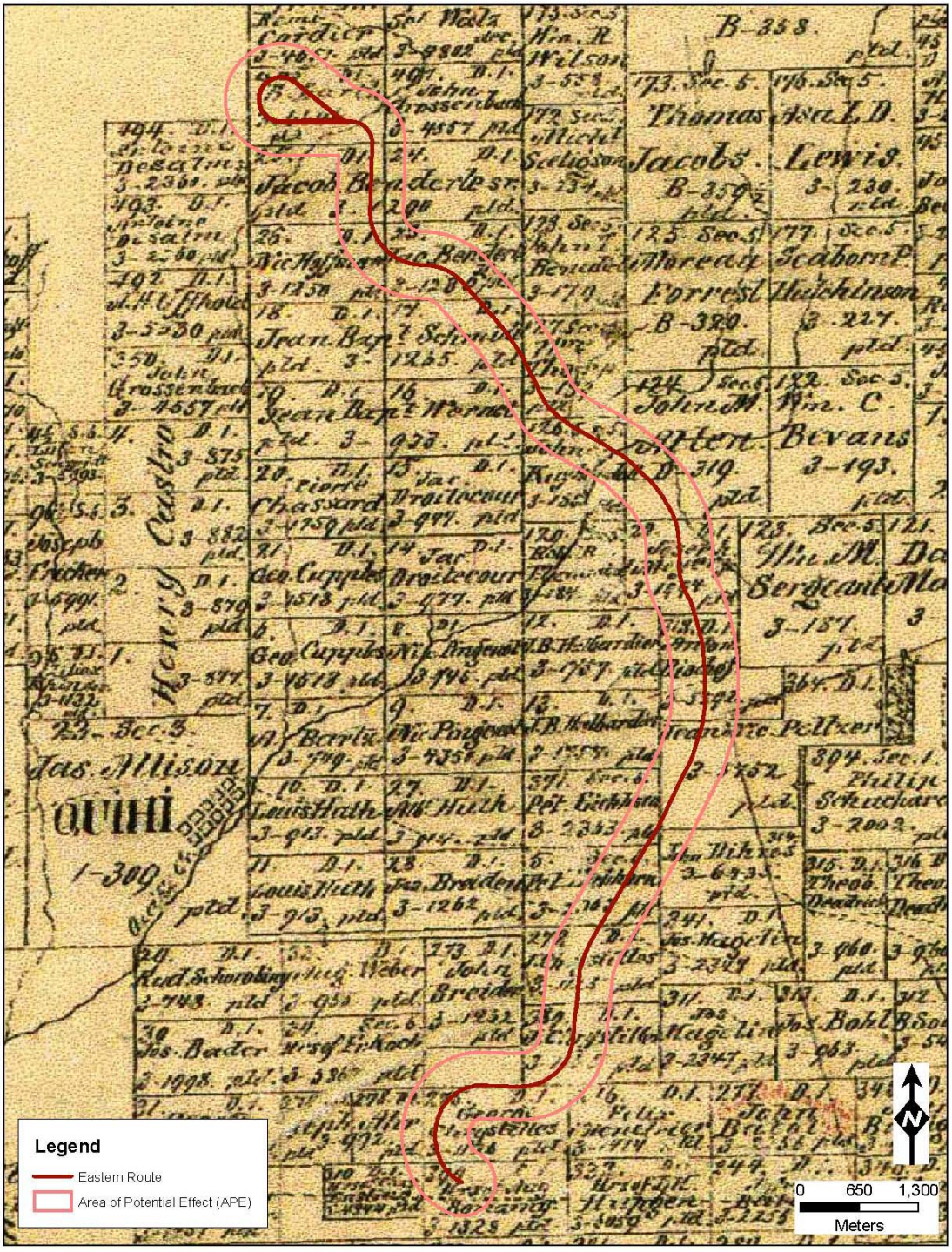

Figure 4: Historic 1862 Medina County Survey Map with Project Area

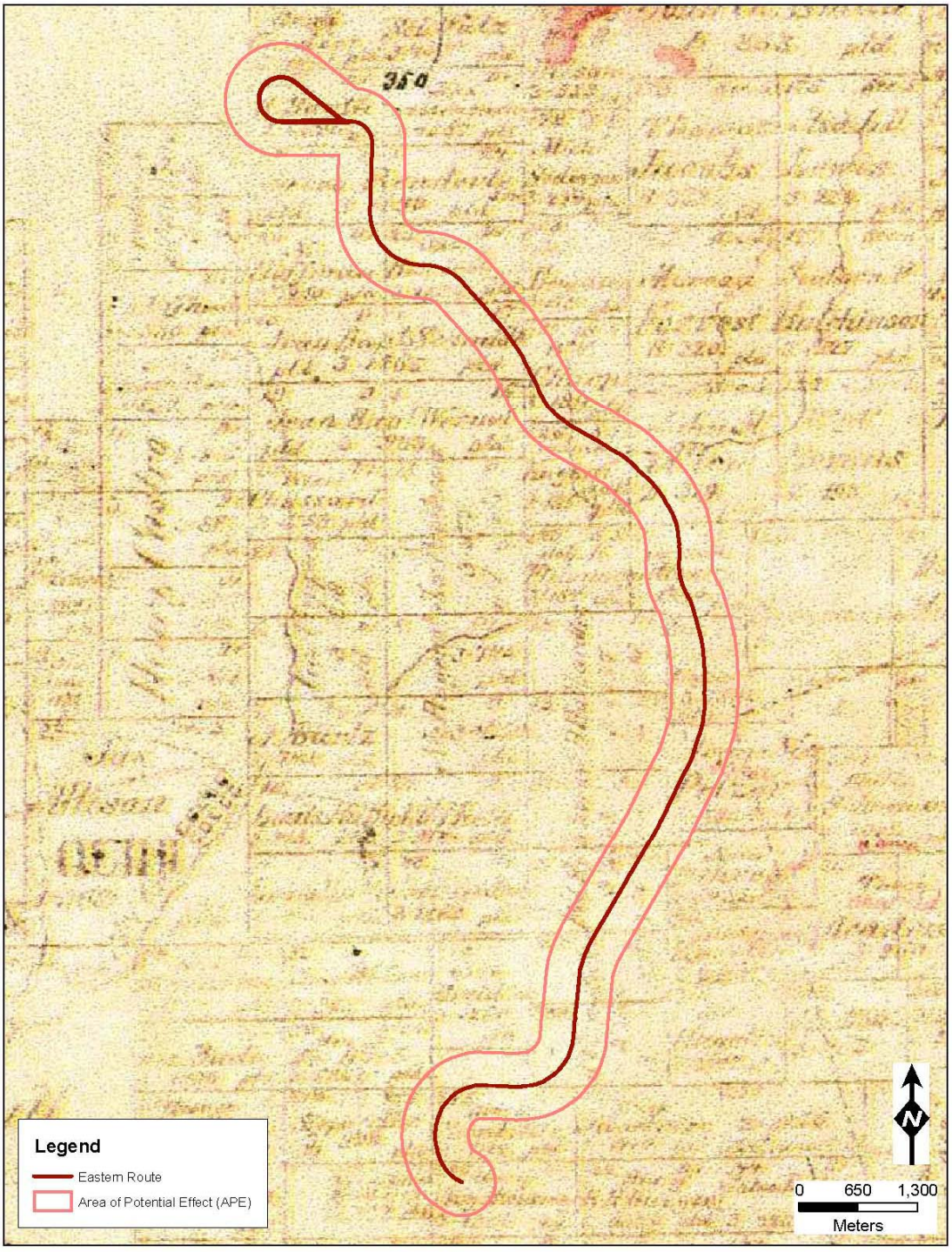

Figure 5: Historic 1873 Medina County Map with Project Area

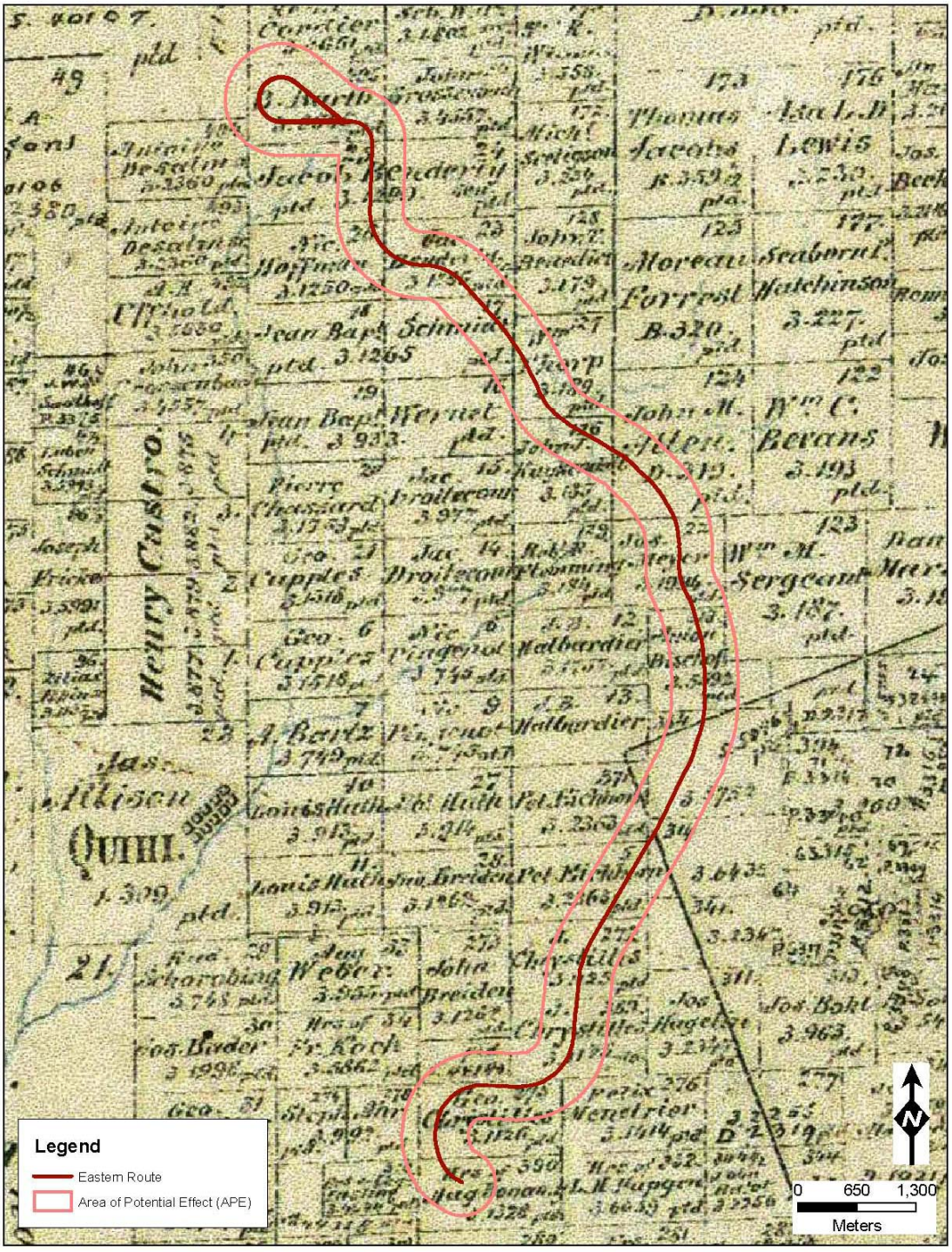

Figure 6: Historic 1880 Medina County Map with Project Area

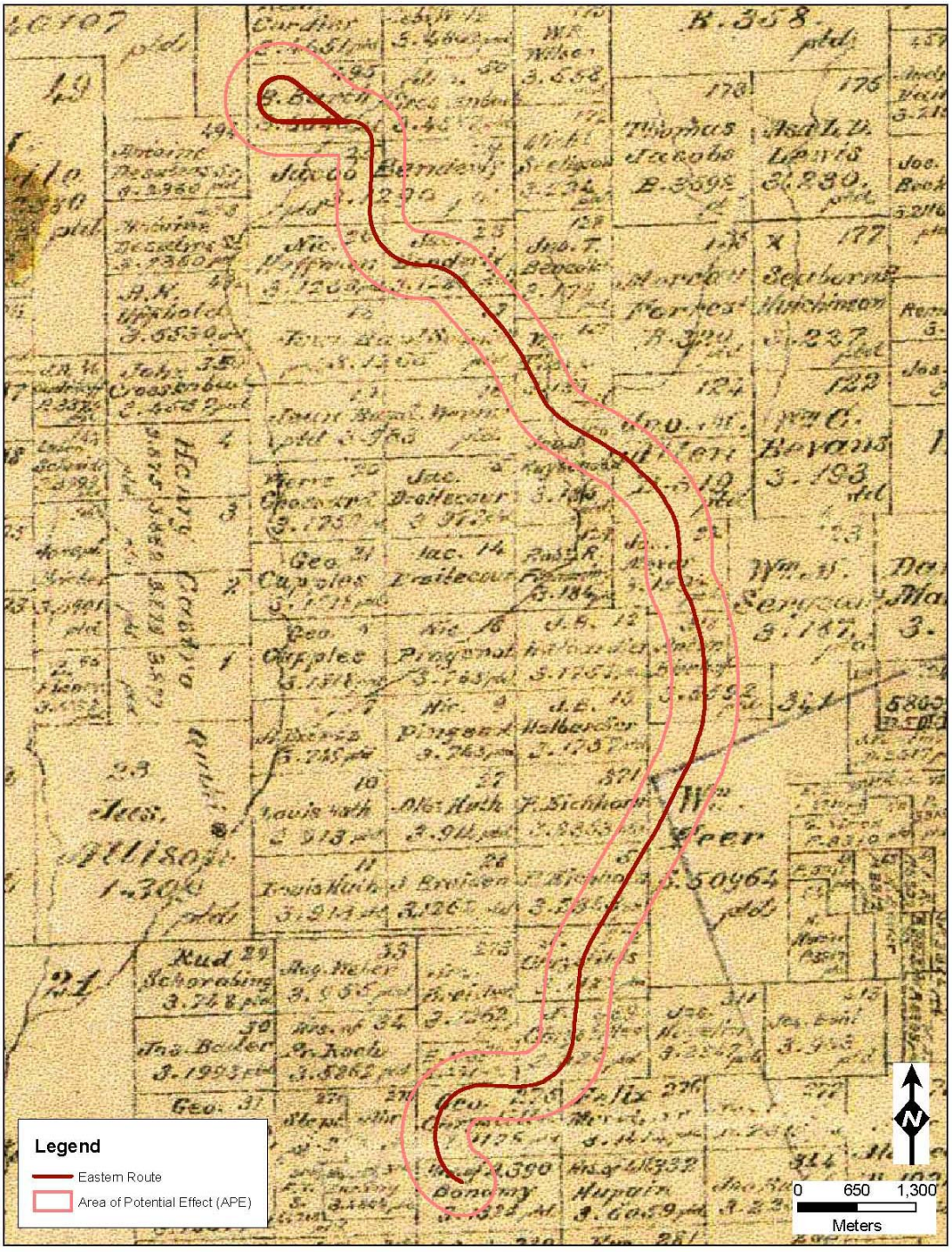

Figure 7: Historic 1895 Medina County Map with Project Area

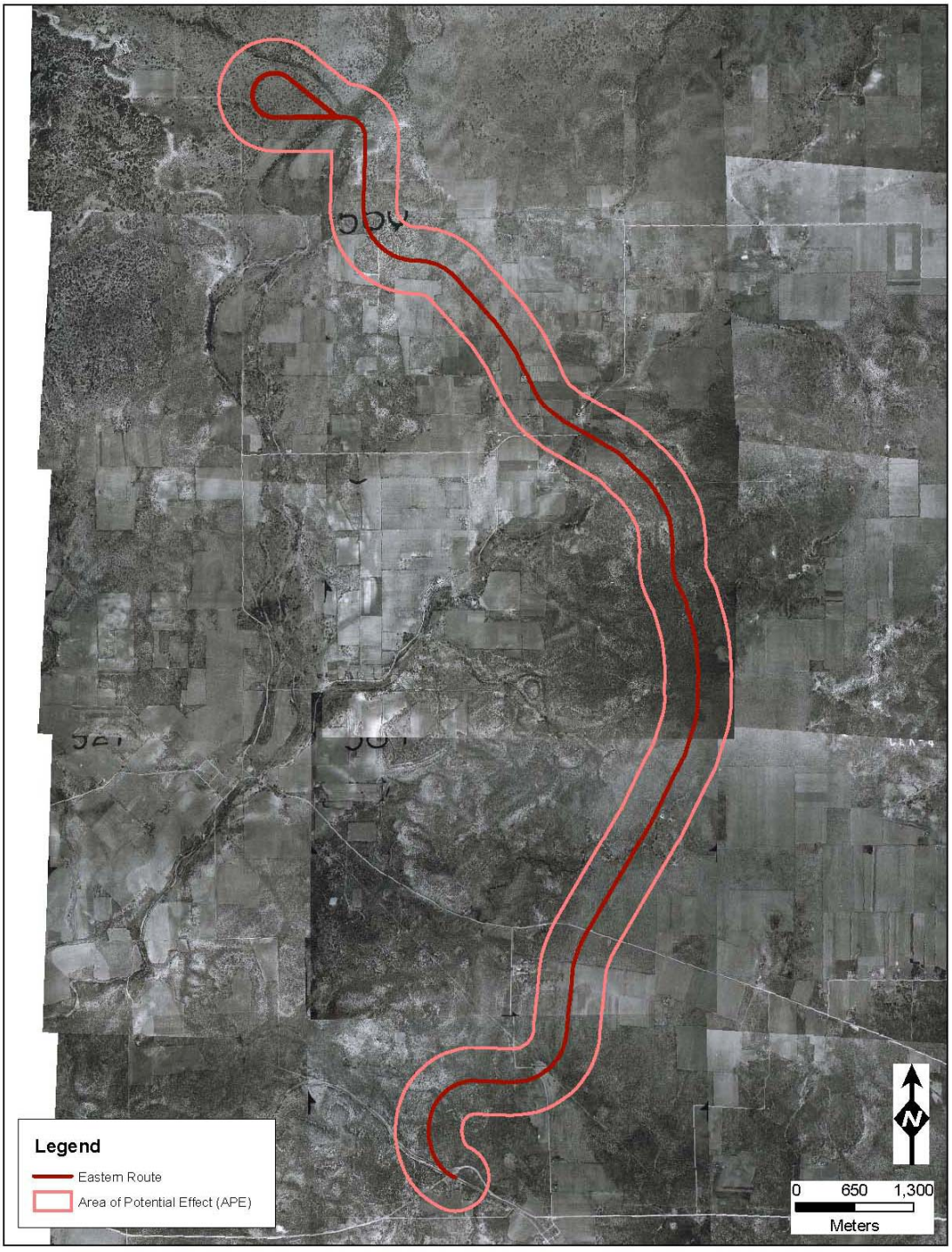

Figure 8: Historic 1940 Aerial Photograph of Project Area

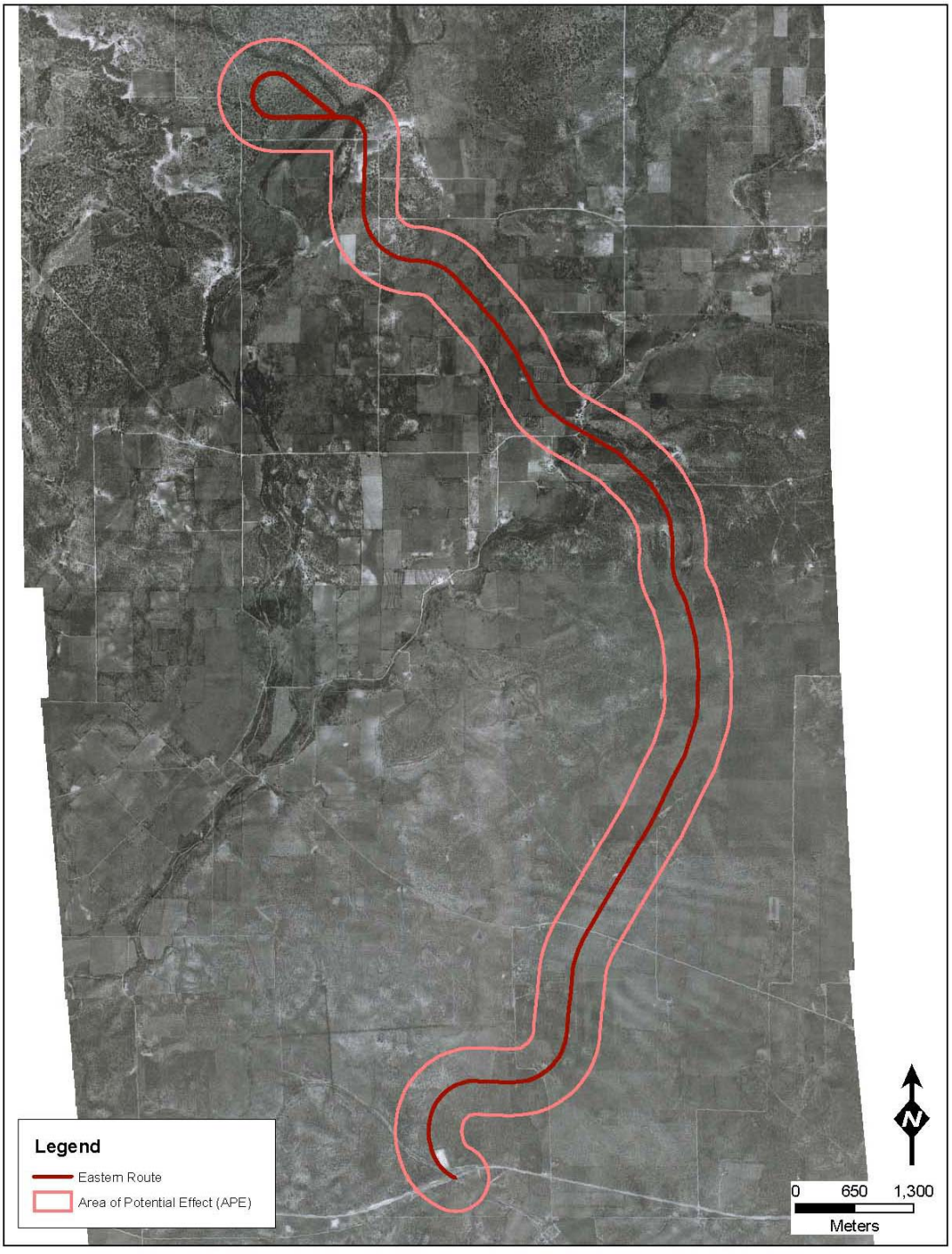

Figure 9: Historic 1952 Aerial Photograph of Project Area

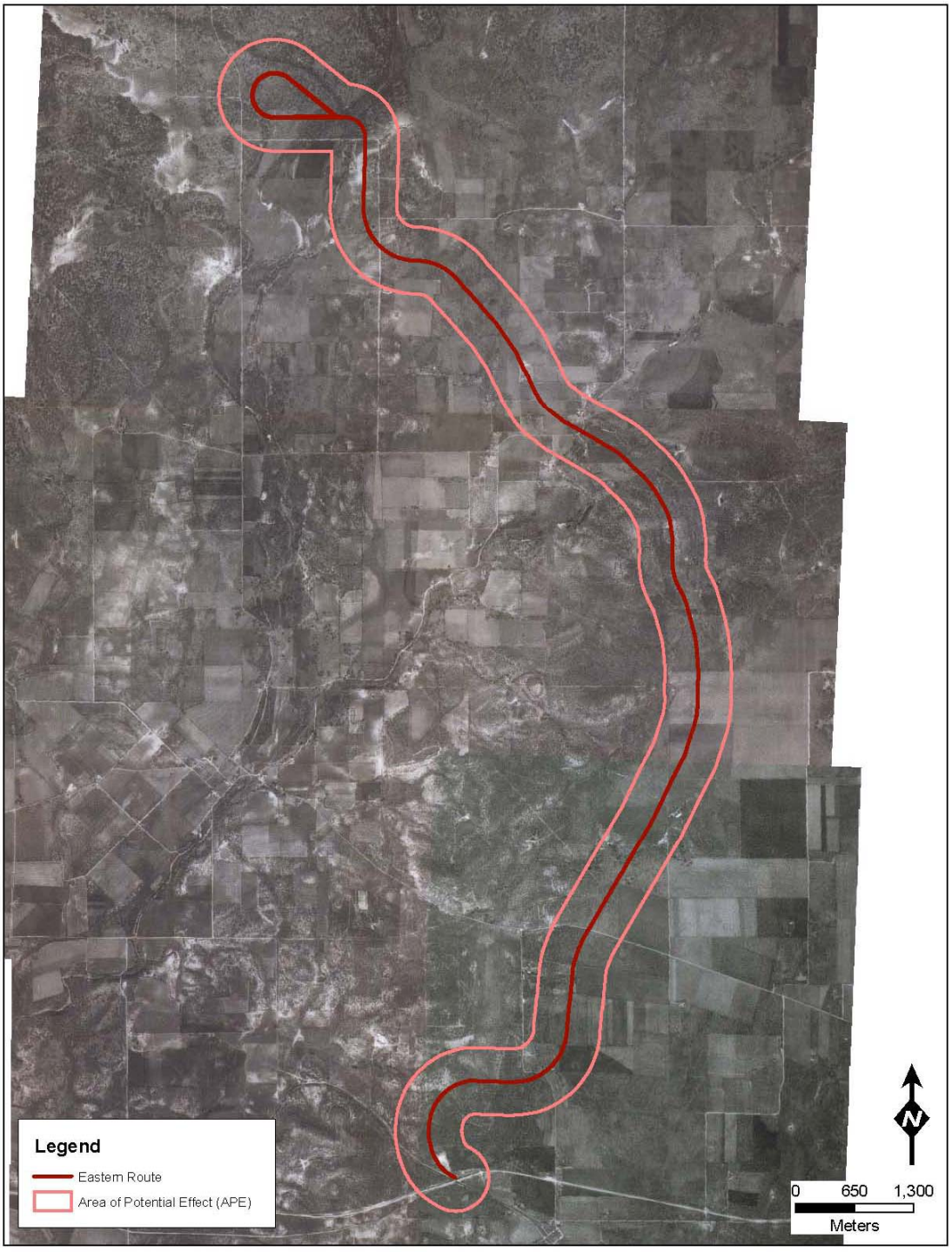

Figure 10: 1964 Aerial Photograph of Project Area

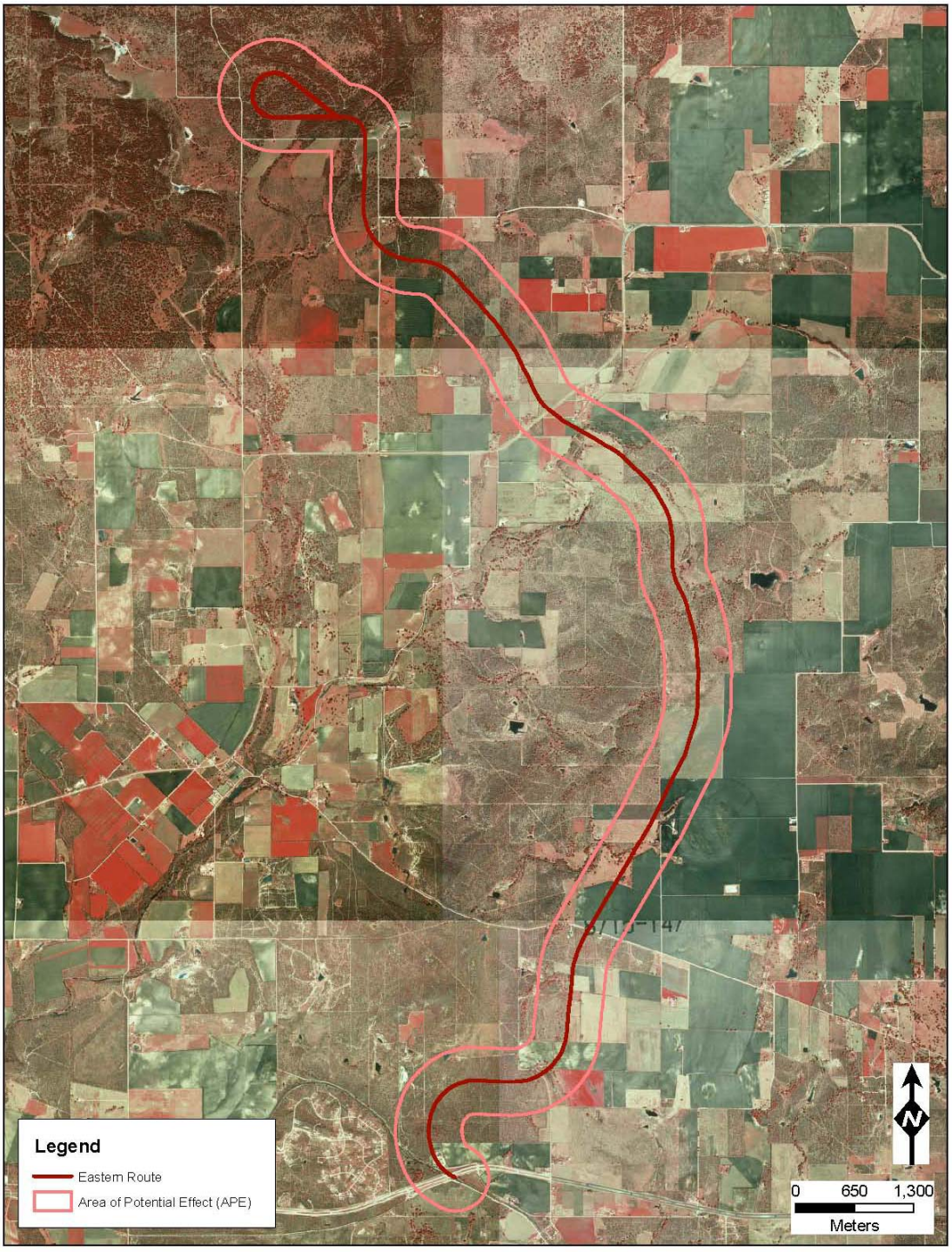

Figure 11: 1996 Aerial Photograph of Project Area

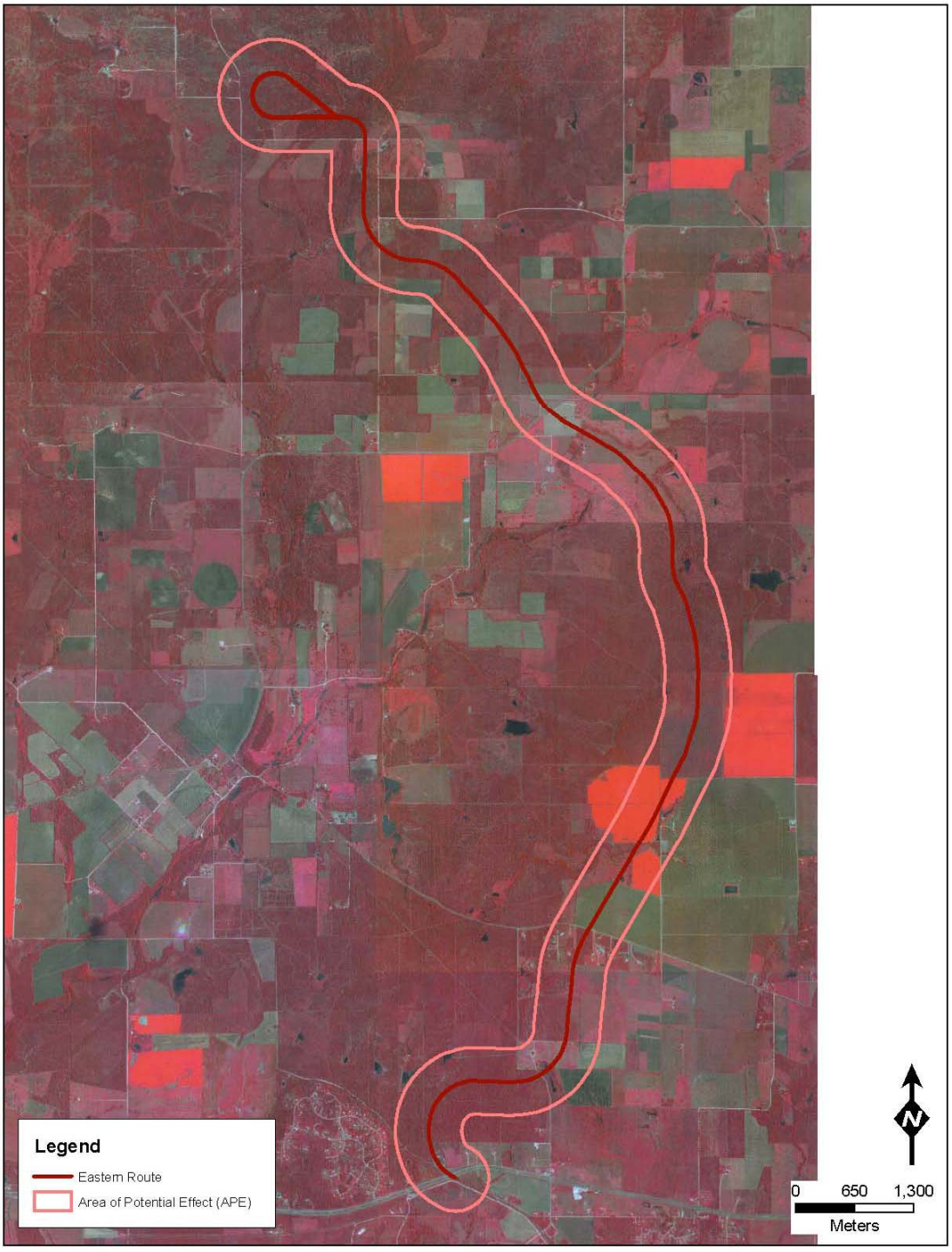

Figure 12: 2004 Aerial Photograph of Project Area

Regional Archeological Chronology

A temporal framework for prehistoric archeological sites in Texas can be categorized by three main periods: the Paleoindian (10,500–8500 BP), the Archaic (8500–1200 BP), and the Late Prehistoric (1200–400 BP). The Archaic period is further subdivided into the Early Archaic (8500–6000 BP), the Middle Archaic (6000–3500 BP), and the Late Archaic (3500–1250 BP). Suhm et al. (1954), Suhm and Jelks (1962), Prewitt (1981, 1985), and Turner and Hester (1986) established this temporal framework based on projectile point type seriation and based on technological changes in diagnostic artifacts due to changing environment and subsistence strategy adaptations.

Paleoindian Period

The Paleoindian period dates from approximately 10,500 to 8,000 years B.P.. Archeological sites have been found in rock shelters and out in the open. Mobile hunters and gathers exploited megafaunal species such as mastodon, mammoth, bison, horse, and camel. The Paleoindian period has been documented as the earliest occupation of Texas archeological prehistoric sites and straddles the end of the Pleistocene era and the beginning of the Holocene. Although few megafaunal assemblages have been recovered at archeological sites, the stone tool assemblages are better known. The stone tools of this period are generally lanceolate projectile points that include *Plainview, Clovis and Folsom* type points. Processing tools include *Clear Fork* bifaces *Albany* tools, and end scrapers (Hester 1985: 137.5). Much debate has occurred in recent years regarding the beginning of this period or that a pre-clovis culture entered North American prior to 10,500 years B.P. and as early as 13, 500 years B. P. as evidence at Monte Verde in Chile, South America. The basic chronology, however, remains the same for Texas at this time.

Archaic Period

The Archaic Period dates from approximately 8500 to 1250 B. P.. Researchers have divided this period into the Early Archaic (8500–6000 years B.P.), Middle Archaic (6000–3500 years B. P.), and Late Archaic (3500–1250 years B.P.). This time period is characterized as becoming warmer in temperatures with rising sea levels. As the sea levels raised so did other water systems like rivers and streams. These changing environmental conditions were the impetus for a burgeoning increase in floral and faunal supply for the inhabitants and the demise of some big game animals like the mastodon and mammoth. As the environment changed, the Archaic people's diet changed as well as their stone tool technology and assemblages that they used to procure and process these new plants and animals. Regional diversification in diet and material culture occurs

during the Archaic Period. In general, Archaic people began to make their projectile points with stems as the lanceloate form fell from use. During the Early Archaic *Angostura, Scottsbluff, Golondrina, Merserve, Gower, Hoxie, wells, Bell, Andice, Martindale, Uvalde, Baird,* and *Taylor* points show this change in stone tool technology. During the transition from Early Archaic to Middle Archaic periods, stemmed points become more common and begin to show a greater degree of diversity in point form. Archaic peoples also begin to make burned rock midden deposits. Point types found at burned rock midden sites typically include *Nolan, Travis, Bulverde, Pedernales, Marshall, Williams,* and *Lange* forms. The last three forms have been considered as transitional forms leading into the Late Archaic. Typical Late Archaic point forms include *Marcos, Montell, Castroville, Frio, Fairland, Ensor,* and *Mahomet.* Archaic population increased throughout this time period at which time social and exchange relationships developed based on the ubiquitous variety of point types and forms and material cultural evidence.

Late Prehistoric Period

The Late Prehistoric Period dates approximately from 1200–400 years B.P.. The greatest innovation during this period was the development of the bow and arrow and stone tool technology also evolved with this new innovation. Late Prehistoric people made their stone points smaller and more various in forms depending on the game animals that they were hunting. Some of these stone arrow points include *Edwards, Scallorn, Zavala, Perdiz, Cuney, Padre* and *Alba* types. The second greatest innovation during this period was the development of ceramics. Settlement patters also change at this time as sedentary and horticultural communities become more common, and corn is introduced to Texas as evidence for exchange networks between sedentary and nomadic groups. Archeological site types also include open camp, lithic scatters, and cemeteries.

Historic Native American Period

The Historic Native American Period begins at the point of contact with European explorers in 450 B.P.; i.e, A.D. 1492. The first European explorer to reach Texas was Alvar Nunez Cabeza de Vaca during the 1528 Narvaez Expedition of the Gulf coast. Cabeza de Vaca was stranded in Texas for eight years and traveled throughout South Texas and Mexico and meeting different Native American groups. He was eventually rescued and went back to Spain. During his journey, Cabeza de Vaca documented numerous groups of people, their customs, and cultural differences. Subsequent Spanish entradas in Texas began during the early 1700s with the establishment of the Spanish missions. Changing and shifting social and cultural ties characterize this time. For example, although the Tonkawa were one of the more numerous Native American groups

in Texas, the Ervipiame moved into the area from northern Mexico and many of them joined the Tonkawa groups as a matter of survival (Hester 1980: 51). The Lipan Apaches immigrated and came from the northwest into Texas. Hester (1980: 51) has noted that by the early 1700s, the Lipan Apache numbered between 3000–5000 in population size and controlled Central Texas area by 1775. Shortly there after, the Comanche moved into Texas from the Colorado and Wyoming areas and displace the Lipan Apache groups. During the French and Indian War in the Great Lakes region, the Kickapoo also moved across the United States and into Texas passing the project area and settling in the Fort Clark and Eagle Pass areas

Archeological Reconnaissance Survey Results

The great majority of the eastern route was not available for surface inspection. Several portions of the route and the associated APE, however, were observable from road right-of-ways. The high probability areas (See Figure 13) that traverse roads were confirmed in the field as potential areas where buried prehistoric cultural deposits are likely to be present. Soil profiles were observable in the southern project area within the western portion of the APE where the route begins to traverse in a north/south direction. In several cases, the top soil was very shallow with poorly sorted cobble strata below. The south central portion of the project area was also observed within a high probability area that was located in an agricultural field. Black clay soils with abundant cobbles comprise this area. There is a moderate probability that surface cultural deposits would be intact if present in this area. Because this high probability area is adjacent to terraces and water resources, there remains the possibility that colluvial processes may have deeply buried ancient cultural deposits.

Photo 1: Road side view of project area

Photo2: Black clay soils and cobbles

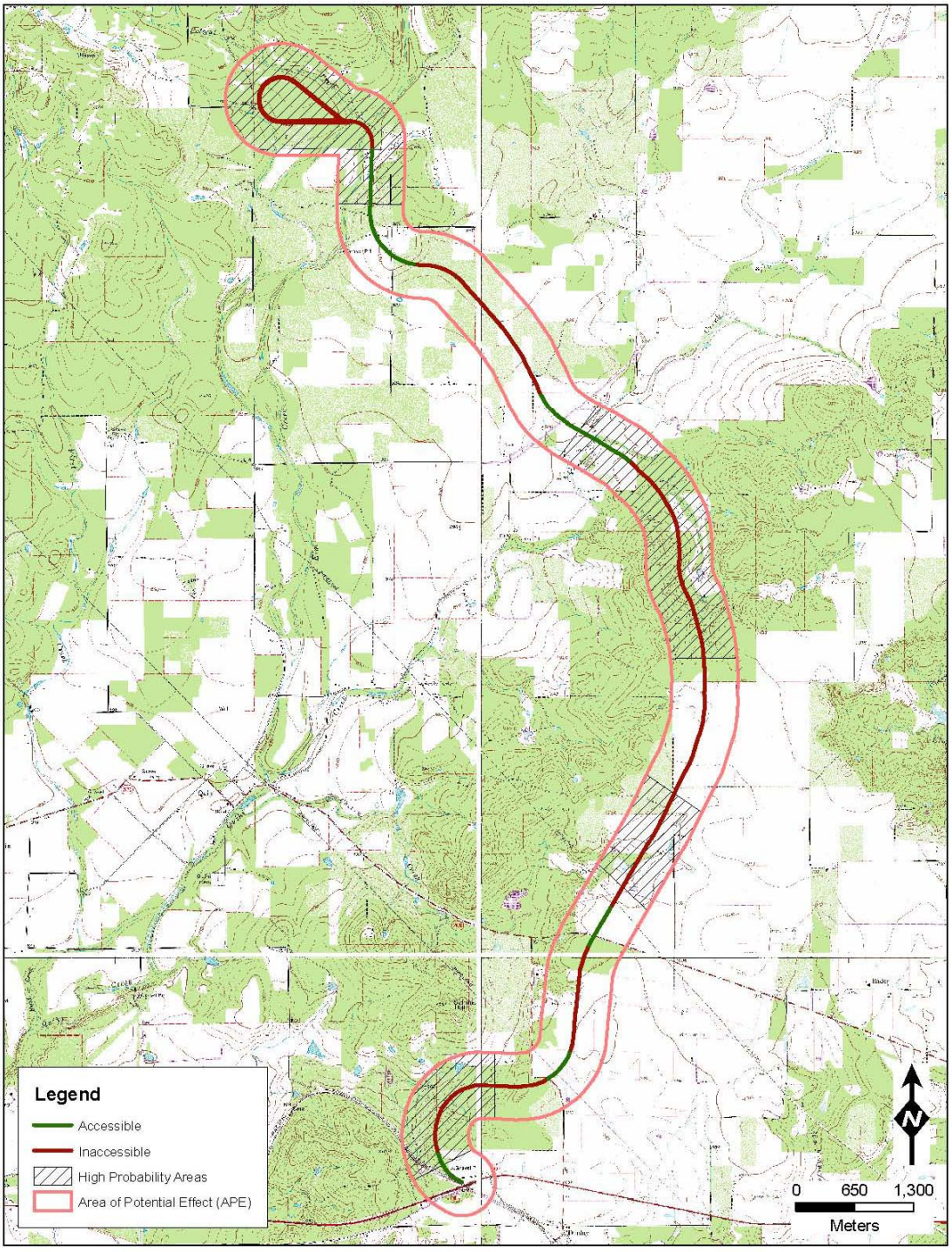

Figure 13: Archeological High Probability Areas in Project Area

The aerial photographs indicate a swath of land running in a northeast to southwest direction that has not been developed or used for agricultural purposes in the past and up to the present according to the 1952 through 2004 aerials. Intensive surface inspection of this area is recommended if the eastern route is approved by STB and chosen for construction, particularly in the high probability areas. Shovel testing is not recommended in the areas where agricultural fields have been plowed over time provided that ground surface visibility is greater than 30 percent.

The probability of historic archeological resources being present within the project APE is greatest north of Quihi Creek and just south of the creek. Additional archival information should be obtained for the property boundaries that remain the same over time in this part of the project APE to determine if tenant farming was practiced by the property owners prior to 1940. The aerial photographs do not indicate small agricultural fields that could be associated with tenant farming after 1940. The probability of discovering such resources just south of Quihi Creek is moderate. The probability within the undeveloped swath of land is considered to be low.

The archeological reconnaissance survey revealed that the high probability areas where archeological sites are likely to be present within the project APE are accurate and worthy of intensive archeological investigations that meets the minimum survey standards for linear projects in Texas. The survey also indicated where shovel testing may not be warranted. The majority of the property boundaries that remain over time do not show a probability of containing historic archeological sites that could add new and important information to Texas history because they are on land that has not been developed. The high probability areas where historic archeological sites are likely to be present should be investigated further with additional archival research within probate and tax records, if STB approves this route and it is chosen for construction. This data collection can be concurrent with the recommended research for historic structures encountered during the survey. For instance, more research would be needed with in historic property boundaries that remain the same over time within the project area and supported with georeferenced historic maps and topo maps (See Figure 14). It is recommended that the focus of this additional archival research for the historical archeology high probability areas also focus on the oldest structures within the project APE. Possible cultural deposits associated with these structures are more likely to add new information to Texas history and should be evaluated through the Programmatic Agreement as a contributing component for National Register eligibility under Criteria D.

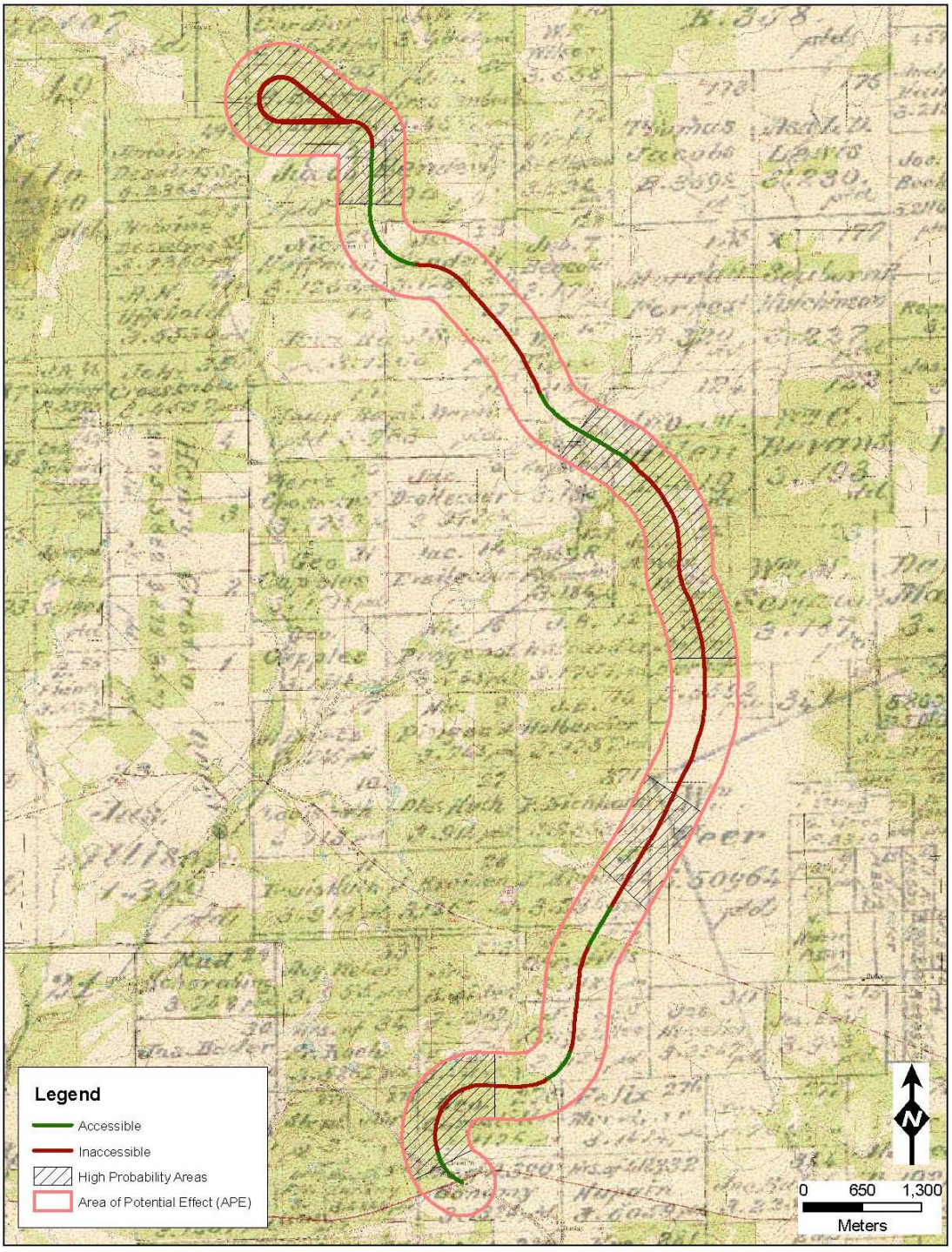

Figure 14: Georeferenced Topographic Map and 1895 Medina County Map Showing High Probability Areas

Historical Architecture Reconnaissance Survey Results

The historical architecture reconnaissance survey was conducted concurrent with the archeological survey. Prior to the field investigation, the architectural historian reviewed the Texas General Land Office historic map archives containing an 1846 survey of the Quihi area, an 1850 Map of Castro's Colony, and the 1862, 1878, 1880, and 1895 Medina County maps. The architectural historian, Ms. Monica Penick, also reviewed historic and current aerial photographs of the project area dating from 1940, 1952, 1964, 1996, and 2004. Preliminary background and archival research revealed designated historic properties and historical markers within and near the project area. A summary of the project area history, including a list of early immigrants and property owners, is provided in the context of the colonization efforts made by Henri Castro, the associated settlements and building practices of late-19th century German immigrants. A brief discussion of the local farming, ranching, and rail economy is provided, as well as 19th- and 20th-century demographics. The findings of the historical architecture reconnaissance survey have been evaluated in the context of area's history and cultural heritage. A brief architectural description and discussion of potential significance have been provided, accompanied by labeled photographs. The locations of these structures (HS#1–HS#9) are noted on the field survey map (See Figure 15). The locations of buildings and structures less than 50 years old have also been indicated on this map as Structures A–L.

Archival Review

A number of important persons and families are associated with the communities of Quihi and New Fountain.[1] A preliminary list of these, derived from early immigrant lists, land grants, and census data serve as a guide for identifying historically significant sites and properties within the project area. A number of standing structures and extant cemetery plots are known to be associated with these families and thus may warrant further investigation. These family names include:

Acke
Bauer
Bohnekamp
Brucks [Westphalia Germany]
Brinkhoff [Brinchoff, Westphalia Germany]
Brinkmann
Deuters
Eisenhauer

[1] Source: "History of Settlement of Quihi" by Rudolph Schorobing (1879); Immigrant Families: http://www.rootsweb.com/~txmedina/immigrant_families.htm.

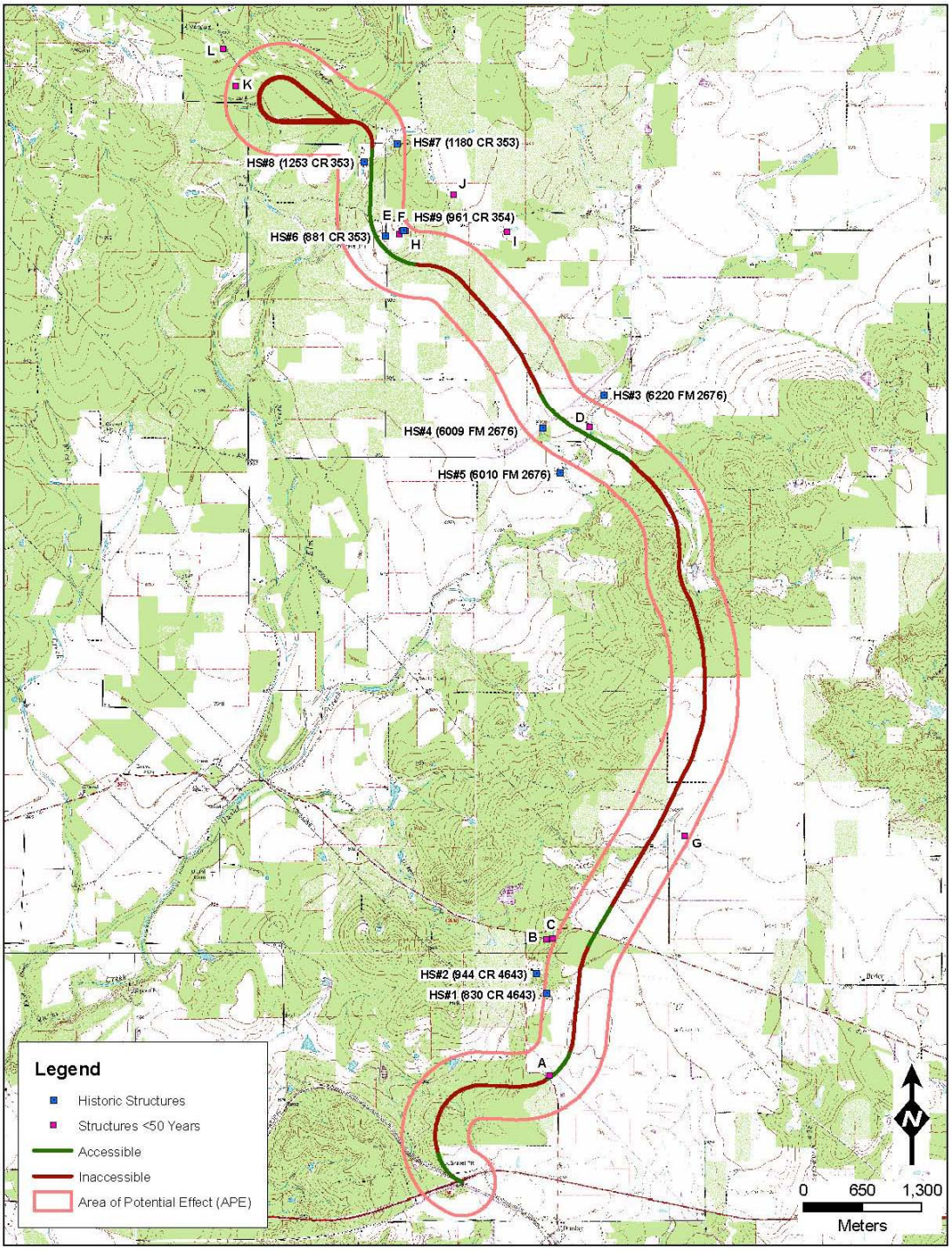

Figure 15: Locations of Historic Structures and Structures Less than 50 Years Old in Project Area

Gaster
Gerdes
Gersting
Henning
Heyehn
Korn
Meyer
Muennink
Oefinger [Wurttemberg Germany]
Opus
Pichot [Meuse France / Lorraine Region]
Reiden
Reiser
Riff
Saathoff [Ost Friesland, Hanover Germany][2]
Schneider
Schmidt
Schweers [Hanover Germany]
Schuele
Schulte [Hanover Germany]
Sievers
Sturm [Wurttemberg Germany]
Tancher
Wilpers
Weimer

According to the designation, marker and survey records of the Texas Historical Commission (confirmed by using the ATLAS database), there are no designated properties within the APE of the eastern route. There are several designated and marked properties in the general Quihi and New Fountain areas (this list is not intended to be exhaustive and pertains to the level of a reconnaissance survey), and these include:

- Schuehle-Saathoff House, ca 1870. National Register and Recorded Texas Historic Landmark. This is a good example of regional Germanic-Alsatian domestic architecture characteristic of Medina County and Central Texas. The Schuehle-Saathoff is significant for its historic associations with the early German settlement in the vicinity of Quihi and the Saathoff family, whose members, including Mimke H. Saathoff, Jr., Schweer H. Saathoff, and William N. Saathoff, were instrumental in the

[2] http://www.summitsoftware.com/pwa/Genealogy/Saathoff/m.htm

establishment of the first free public school system in Medina County, the founding of Quihi and the formation of the Lutheran Church in Medina County. This house remains a rare intact example of vernacular German-Alsatian stone architecture common to this area, and has minor additions and few alterations. Located on the Nicholas Pingenot Survey No. 9, Abstract 764, a grant of 320 acres which was surveyed on October 11, 1846, for empresario Henry Castro, assignee of Pingenot. Louis Huth, acting as agent for Castro, brought the first ten families, predominantly German, to Quihi in 1846. Surveyed lots were subsequently divided into farms of 640 and 320 acres for each married and single man respectively. The Pingenot Survey which had passed, by the 1870s, to members of the Schuehle, Schweers, and Saathoff families, all early settlers of Medina County. (source: ATLAS)

- Bethlehem Lutheran Church, ca 1914, Quihi. Historic Marker, no designation. Founded in 1852 by Reverend Christian Oefinger.[3] (source: ATLAS)
- New Fountain United Methodist Church, (address: 2980 FM 2676). New Fountain. Historic Marker, no designation. (source: ATLAS)
- Oefinger House, ca 1909. 2.7 miles north of Quihi on FM 2676. Recorded Texas Historic Landmark. This well-preserved example of late Victorian architecture was built in 1909 by Christian Oefinger (1861-1950), son of early German immigrant Andreas Oefinger (b. 1819) and Ursula Nee Fuos. The house remains intact, with on the addition of a third bedroom, added in 1915, that served as a boarding house for a local schoolteacher.. The house remained in the Oefinger family for several generations. (source: ATLAS)
- Town of Quihi, ca 1844-46. Historic Marker, no designation. The Town of Quihi was surveyed in October, 1844, by Henry Castro. Quihi was settled in March, 1845 by ten families.

Family cemeteries

- Breiten; located in Quihi; (earliest tombstone 1902)
- Britsch; located Hwy 173 and CR 448 on Verde Creek. Earliest tomb: 1918 (WWI soldier).
- Brucks; Located next to the Bethlehem Lutheran Church Cemetery in Quihi, Texas. Earliest tomb: 1872.
- Decker: location 292421N 0990619W
- Quihi Community Cemetery: located 292258N 0990148W Quihi (CR 4517). Note: some of Saathoff family buried here.
- Saathoff Family Cemetery; no location given
- St. John's Lutheran Cemetery; located on Old Bandera Road near Quihi 292306N 0990434W Quihi ; earliest tomb 1889

[3] http://www.rootsweb.com/~txmedina/bethlehem_lutheran.htm

- Schorobiny Family Cemetery; no location given
- New Fountain Methodist Church cemetery
- New Fountain Masonic Cemetery; earliest tomb 1856

Summary of Project Area History

Permanent settlement of the areas adjacent to the eastern route area began in 1844, when Frenchman Henri Castro negotiated an empressarial contract with the Republic of Texas to establish a colony along the Medina River west of San Antonio. With the assistance of German wine merchant Ludwig Huth and his son Louis August Ferdinand Huth, Castro recruited a number of German and French-speaking families from the Alsace region of northeastern France, and a large number of German families from Wurttemburg (a southwestern province adjacent to Alsace) and Hannover in Lower Saxony (a northwestern province of Germany).[4] The majority of Castro's first colonists, as well as subsequent groups of Texas-bound German settlers, departed from ports near Bremen, Germany and sailed to the Port of Galveston or Port Lavacam, Texas. From there, they made an arduous journey over land to the Castro grant in what would become Medina County. Castro's first group of colonists, under the escort of Texas Rangers led by John Coffee Hays, landed in 1844 and by September had founded Castroville, at the time the westernmost settlement in Texas.[5]

By 1845, settlement began to expand west of Castroville and centered around the communities of Quihi (founded 1845), Vandenburg (founded 1845-46), New Fountain (founded 1846 to replace Vandeburg), and Old D'Hanis (founded 1848). As in Castroville, each of these new settlements was laid out in a pattern reminiscent of practices held in their native German or French villages. In this traditional layout, homes seldom formed a gridded system, but were often scattered on acre-plots. These small town lots, often the site of primary residences, were surrounded by outlying twenty and forty-acre farming plots.

Quihi, now at the intersection of Farm to Market Road (FM) 2676 and Quihi Creek, was laid out in 1845 by Castro. By March 1846, ten families, most of them German-speaking, had taken up permanent residence at the town site. These original settlers (between Quihi, New Fountain and nearby Verdana) included Louis Boehle, Mimke Saathoff, Focke E. Saathoff, Gerd Schmidt, and John Henry Gerdes. The Brucks,

[4] Between 1843 and 1847, Castro charted twenty-seven ships from Europe to Texas, in which he brought 485 families and 457 single men. Handbook of Texas Online, s.v. "CASTRO, HENRI," http://www.tsha.utexas.edu/handbook/online/articles/CC/fca93.html (accessed July 22, 2005). See also U.S. Census for Medina County, 1850 1860, 1870.

[5] Handbook of Texas Online, s.v. "MEDINA COUNTY," http://www.tsha.utexas.edu/handbook/online/articles/MM/hcm10.html (accessed July 21, 2005).

Heyens, Muennicks, Pichots (a French Alsatian family), Schweers, Schuelel, and Weimers were also included in this original group, which, as many of their other family members and friends joined in this area, became known at least informally as the "Saathoffsche Kolonie".[6] Other emigrant settlers from Alsace and East Frisia settled in the community in the 1840s and 1850s (see list above). Quihi had grown considerably by the 1850s, and by 1852 had one church (the Bethlehem Lutheran Church, founded in 1852 by Reverend Christian Oefinger), a post office (1854), and a private school (1856). Citizens of Quihi, particularly the Saathoff family, were instrumental in the establishment of the first public school in Medina County (1874). As was common in many German-speaking towns, social and cultural groups were formed and played a large role within the community and surrounding areas. In Quihi, residents formed the Quihi *Schuetzen Verein* (English translation: Shooting Association) in 1890. Such groups were formed by German-speaking immigrants across the United States, and functioned as social clubs, and often as a form of militia or public safety committee. Now known as the Quihi Gun Club, this society still draws members drawn from all over Medina County and claims to be the "oldest continually running gun club" in the Untied States -- though today the club seems to be more well-known for its monthly dances.[7] In the 1940s, Quihi had two businesses, a school (which closed in 1930 and was in use as a community center), a church, scattered residences, numerous family cemeteries, and an estimated twenty inhabitants. By the 1960s the town's population was estimated at 100. The population was still estimated at 100 in 1990, though only a few residents remain today.[8]

New Fountain, approximately two miles southwest of Quihi on FM 2676, was also founded by German-speaking Castro colonists in 1846. In 1857, New Fountain opened the fourth post office in Medina County (postmaster Roland Goering). In 1858, the town established a German Methodist Church (led by Reverend Johann August Schaper), and by 1860 had a mill, a Masonic lodge and a stagecoach stop servicing the route between San Antonio and Uvalde. The New Fountain School was established in 1876, and only twenty years late, the town reported a population of 400, two general stores, a corn mill, and a railroad express and telegraph agent. The George Muennink's gin is believed to have been the first cotton gin in Medina County, as well as the first building with a tin roof, the first with electricity, and the first with a telephone.[9] The fortunes of New Fountain appeared to fluctuate in the second decade of the 20th century, as the 1906 school was expanded (1911), while the post office closed (1914). The

[6] Castro Colonies Heritage Association, http://www.rootsweb.com/~txmedina/ccha.htm.
[7] http://www.honkytonktx.com/dancehalls/
[8] Handbook of Texas Online, s.v. "QUIHI, TX,"
http://www.tsha.utexas.edu/handbook/online/articles/QQ/hnq2.html (accessed July 22, 2005). See also U.S. Census, Medina County.
[9] Handbook of Texas Online, s.v. "NEW FOUNTAIN, TX,"
http://www.tsha.utexas.edu/handbook/online/articles/NN/hvn21.html (accessed July 22, 2005).

construction of the Medina Dam in 1913 improved the economic conditions of the surrounding areas for a time, but by the 1940s, a new German Methodist church was the only active organization in New Fountain. By the mid-1980s all that remained in the community was the church and the adjoining cemetery.[10]

Settlement and Building

The first structures erected in Castro's colonies were typical pioneer buildings, often crude shelters constructed with materials close at hand by methods that proved quick and economical. By the mid-1850s, the settlers (particularly the Germans) began to build more permanent buildings constructed of hand-hewn native limestone, sandstone, or some combination of stone and timber, often roofed with cypress shingles. In traditional German buildings, stonework normally appeared on the ground floor of the house, and gave way to half-timbering (*fachwerk)* on upper levels; in many of the Texan examples, it was not uncommon to see several building phases (log, *fachwerk*, and stone) combined in successive additions to the structure. The colors found in the stone ranged from an off-white, common in the Castroville area, to a rich blend of ochres and gold characteristic of the New Fountain and Quihi communities. [11] Although German-built limestone and sandstone structures appear widely through south central Texas, the greatest concentrations are in the Hill Country and Medina County. [12]

The earliest homes in this area of Medina County were typically one to 1 ½ stories, characterized by their small rectangular shape, steeply-pitched roofs often in saltbox formation, thick masonry walls smoothed with lime plaster (though sometimes sheathed in weatherboard), full-façade porches, gable-end chimneys and small window openings (both a function of the structural system and defensive requirement against warring Indian tribes, who were reported to raid as late as 1874). Some of the earliest roofs were sheathed in thatch as was the French and German tradition, but was early as 1850, the abundance of cypress trees along the Medina River made the more weather-resistant wood shingles a desirable and obtainable option; in fact, many Germans immigrants were instrumental in developing the cypress-shingle industry of the Texas Hill Country. [13] The European method of building ground floors of stone and second floors with vertically placed timbers was characteristic of two-story construction. Many

[10] Handbook of Texas Online, s.v. "NEW FOUNTAIN, TX,"
http://www.tsha.utexas.edu/handbook/online/articles/NN/hvn21.htm
[11] Handbook of Texas Online, s.v. "MEDINA COUNTY,"
http://www.tsha.utexas.edu/handbook/online/articles/MM/hcm10.html (accessed July 21, 2005).
[12] Handbook of Texas Online, s.v. "GERMAN VERNACULAR ARCHITECTURE,"
http://www.tsha.utexas.edu/handbook/online/articles/GG/cbg1.html (accessed July 21, 2005).
[13] Handbook of Texas Online, s.v. "GERMAN VERNACULAR ARCHITECTURE,"
http://www.tsha.utexas.edu/handbook/online/articles/GG/cbg1.html (accessed July 21, 2005).

of these architectural features were common to the rural structures of their German homelands, though settlers quickly learned to make adaptations that suited the unique climate of Medina County and the materials at hand. [14] This second phase of construction, characterized by the stone and *fachwerk* structures, ended about the time of the Civil War, and few if any half-timbered buildings were erected after 1870."[15]

Buildings erected after 1870 to the 1940s were typical of architectural developments across Texas and the United States. In the late 19th century, waves of immigration from various cultural and ethnic groups in combination with increased contact with eastern states had a tremendous impact on the development of architecture in the region. The introduction of railway lines into Medina County in 1881 not only opened the region to increased export commerce, but allowed the import of new architectural ideas and perhaps more significantly, new building materials such as milled lumber, factory-made brick, window glass, and cast-iron elements (such as storefronts). The majority of extant buildings within the project area are residential; most of these built in the early-twentieth century. These homes reflect national trends and reveal the stylistic influence of Folk Victorian, bungalow, and 1940s minimal-traditional. The German vernacular building tradition that was prominent before the Civil War gradually gave way to architectural trends present across the country, thus demonstrating significant changes in regional development patterns and perhaps an increased sense of a shared "American" cultural heritage.

Economy: Farming, Ranching and Rail

As required by contract, mid-19th century settlers to Medina County immediately began to cultivate their land grants. Although their first efforts were unsuccessful, they soon began to grow corn, cotton and sorghum. Many of these first settlers operated subsistence farms while learning livestock husbandry, which they had quickly realized was better suited to the area.[16] Aided by the introduction of barbed wire (1873), cattle ranching doubled during the 1870s to become the largest was the dominant agricultural activity by 1882. [17] The coming of the railroad to Medina County (Galveston, Harrisburg and San Antonio Railway in 1881 and the Great Northern Railroad in 1882) insured a solid connection for the burgeoning livestock trade, and aided further community growth

[14] Handbook of Texas Online, s.v. "CASTROVILLE, TX,"
http://www.tsha.utexas.edu/handbook/online/articles/CC/hjc5.html (accessed July 21, 2005).
[15] Handbook of Texas Online, s.v. "GERMAN VERNACULAR ARCHITECTURE,"
http://www.tsha.utexas.edu/handbook/online/articles/GG/cbg1.html (accessed July 21, 2005).
[16] Handbook of Texas Online, s.v. "MEDINA COUNTY,"
http://www.tsha.utexas.edu/handbook/online/articles/MM/hcm10.html (accessed July 21, 2005).
[17] p://www.tsha.utexas.edu/handbook/online/articles/MM/hcm10.html (accessed July 21, 2005).
[17] Handbook of Texas Online, s.v. "MEDINA COUNTY,"
http://www.tsha.utexas.edu/handbook/online/articles/MM/hcm10.html (accessed July 21, 2005).

in this region and spurred the establishment of nearby towns of Hondo (later the county seat), La Coste, Dunlay, and New D'Hanis were established along the GH&SA; the towns of Devine and Natalia were established along the IG&N."[18]

While the extension of railroad lines into Medina County and throughout Texas spurred economic growth and population increases, subsequent economic developments, settlement patterns and demographic shifts during the early decades of the twentieth century were dictated by creation of an automobile-related infrastructure. During the 1920s and 1930s, a number of roads were built and upgraded, often improved from wagon or horse tracks to passable all-season roads. In 1921 the Old San Antonio Road was graded and designated State Highway 2; later it was widened and improved to become U.S. Highway 81, which served as the main north-south route until Interstate 35 was completed in 1964. State Highway 3, completed in 1922, was improved through Castroville, Dunlay, Hondo, and D'Hanis; it was later designated U.S. Highway 90 and serves as the main east-west route."[19] A number of smaller Farm-to-Market and county roads received similar upgrades and were integral in the survival and development of this area. Rail provided the major means of transport until the advent of the state and federal highway system (1926). With improved road and increased availability of automobiles, economic systems changed. The use of trucks to transport products to market increased in popularity, leading to the increased production of truck crops, such as spinach, sweet potatoes, cabbage, beans, turnips, tomatoes, Irish potatoes, and strawberries. Broom corn was one of Medina County's most lucrative cash crops in 1930s and 1940s. Ranching and poultry farming also continued. [20]

Farming and livestock ranching remained major endeavors in the county up to World War II. Cotton and corn were both lucrative until at least 1940 (notwithstanding the 1905 boll weevil epidemic, which devastated cotton crops for a number of years).[21] The completion of the Medina Dam in 1913, at that time the fourth-largest dam project in the United States, provided water to irrigate an estimated 60,000 farmland acres. This major project not only encouraged prospective farmers, but provided a large number of jobs related to both the dam project and increased farm production. This project and

[18] p://www.tsha.utexas.edu/handbook/online/articles/MM/hcm10.html (accessed July 21, 2005).
[18] Handbook of Texas Online, s.v. "MEDINA COUNTY," http://www.tsha.utexas.edu/handbook/online/articles/MM/hcm10.html (accessed July 21, 2005).
[19] Handbook of Texas Online, s.v. "MEDINA COUNTY," http://www.tsha.utexas.edu/handbook/online/articles/MM/hcm10.html (accessed July 21, 2005).
[20] Handbook of Texas Online, s.v. "MEDINA COUNTY," http://www.tsha.utexas.edu/handbook/online/articles/MM/hcm10.html (accessed July 21, 2005).
[21] Handbook of Texas Online, s.v. "MEDINA COUNTY," http://www.tsha.utexas.edu/handbook/online/articles/MM/hcm10.html (accessed July 21, 2005).

subsequent economic shifts had a marked affect on the number of Mexican immigrants to the county.[22]

Demographics: 19th and 20th Centuries

The first wave of German settlers who immigrated to Texas under the auspices Friedrich Ernst, the Adelsverein, and Henri Castro were typically considered middle-class, often from land-owning families. Many were accomplished artisans, and, in a few cases, university-educated professionals.[23] The majority were farmers with a modest experience in trade. For the most part, they were neither poverty-stricken nor oppressed (although some were truly fleeing the social and economic backlash from revolutions of 1848), and were able to afford the substantial cash investment required in overseas migration.[24] By 1850, the "German Belt" in Texas was well-established, and during this decade alone, the number of German-born persons in Texas more than doubled to over 20,000 individuals.[25] Immigration was curtailed during the American Civil War, but from 1865 to the early 1890s, more Germans arrived in Texas than during the thirty years before the war (though many of these settled outside the Hill country and Medina County). [26]

Population during the early decades of the twentieth century fluctuated a great deal. The population declined during the Depression years, but rebounded in the 1930s due to the construction of the Medina Dam. While new immigration from Germany slowed markedly, records demonstrate that descendants of the first colonists remained in the area to the present day. The presence of other cultural groups, predominantly Mexican immigrants, increased dramatically. This shift paralleled the growth of industries such as broom corn farming, lignite coal mining (near Natalia), the Medina Dam construction, and brick making (around D'Hanis).[27]

[22] Between 1900 and 1910 the number of Mexicans in the grew from 842 to 3,147, representing one quarter of the county's residents. By 1930 Mexicans numbered 6,172. This growth wsa curtailed by the Depression, and had been reduced to around 1,000 by 1940. Handbook of Texas Online, s.v. "MEDINA COUNTY," http://www.tsha.utexas.edu/handbook/online/articles/MM/hcm10.html (accessed July 21, 2005).
[23] Handbook of Texas Online, s.v. "GERMANS," http://www.tsha.utexas.edu/handbook/online/articles/GG/png2.html (accessed July 21, 2005).
[24] Handbook of Texas Online, s.v. "GERMANS," http://www.tsha.utexas.edu/handbook/online/articles/GG/png2.html (accessed July 21, 2005).
[25] Handbook of Texas Online, s.v. "GERMANS," http://www.tsha.utexas.edu/handbook/online/articles/GG/png2.html (accessed July 21, 2005).
[26] Handbook of Texas Online, s.v. "GERMANS," http://www.tsha.utexas.edu/handbook/online/articles/GG/png2.html (accessed July 21, 2005).
[27] Handbook of Texas Online, s.v. "MEDINA COUNTY," http://www.tsha.utexas.edu/handbook/online/articles/MM/hcm10.html (accessed July 21, 2005).

Historic Architectural Reconnaissance Survey Results

The reconnaissance level survey of the eastern route included the identification of nineteen standing structures and a number of associated outbuildings. These nineteen buildings were located within visual range of the proposed route and were to varying degrees accessible by county roads or farm-to-market roads. Investigation of these properties was limited to viewing from the public access, and documentation was limited to photographs taken with a zoom lens. Several properties were not visible or accessible from the public roadway, and have not been noted as part of this survey. Of the 21 properties identified within the proposed APE (and within approximately 200 feet of the APE), 12 were constructed within the last fifty years and have been deemed non-historic and not eligible for listing on the National Register of Historic Places. These properties are all residential, and are labeled as Structures A through L on the attached survey map. Nine of the properties identified within the proposed APE are considered historic, with construction dates ranging from approximately 1870 to 1940. Of these nine, two date from the late 19th century and possibly represent the earliest waves of settlement in the areas of Quihi and New Fountain. The remaining seven were constructed in the first three decades of the twentieth century, and seem to represent another cohesive period of residential development in this area. Several of these nine properties are currently owned by descendants of the earliest German settlers in Quihi and New Fountain, thus suggesting possible association with important historic people or patterns of events.

The reconnaissance survey was restricted by limited access to each of these properties, but has revealed that at least nine historic properties lie within the proposed APE and within approximately 200 feet. All historic structures within the APE or immediately adjacent (approximately 200 feet) were considered not only for their individual eligibility but for possible inclusion in a historic district or possible rural historic landscape. The majority of these nine properties retain their architectural character, possess a high degree of integrity, and suggest the possibility of significant association with historic events, trends, development patterns or persons. Because work was performed at the reconnaissance level, further investigation is recommended to verify eligibility for inclusion in the National Register, if this eastern route is chosen for construction and the Programmatic Agreement is in place. To properly assess the eligibility of individual properties or groups of properties (for the inclusion in historic districts or rural historic landscapes), the architectural historian would carry out the stipulations in the Programmatic Agreement related to historic property identification, documentation, and assessment. Figure 16 shows the location of the historic structures in relation to the Historic 1895 Medina County map as a reference to the estimated oldest structures in relation to historic property owners.

HS #1
Address: 830 CR 4643
Owner: unknown
Approximate date: 1930
Status: Potentially Eligible


Photo 3: HS #1, 830 CR 4643

HS #1 is a 1-story wood frame residence, displaying stylistic influence derived from the American bungalow. This particular example is characteristic of vernacular derivatives popular in the United States between approximately 1905 and 1935. Elements include a low pitched, front gable roof over an offset partial-width front gable porch supported on squared Doric columns.
Decorative knee braces are visible under the gable roof of the porch. The primary entrance appears to be centered in the façade beneath the porch, and is flanked by paired wood sash windows. The residence is clad in drop-type wood siding typical of this type and period. The character-defining features of this residence that existed during the historic period appear intact, and the resource displays a high degree of integrity of location, design, setting, materials, workmanship, feeling and association.

The historic significance of this property is unknown, but may be linked to a wave of residential development that occurred in the area during the 1920s and 1930s. Much of this development seems to be tied with descendants of the original settlers of Quihi and New Fountain, as family names of historic note are attached to many of these properties. This pattern of settlement suggests that subsequent generations obtained nearby property or divided family lands and constructed their own homes as they came of age or were married.

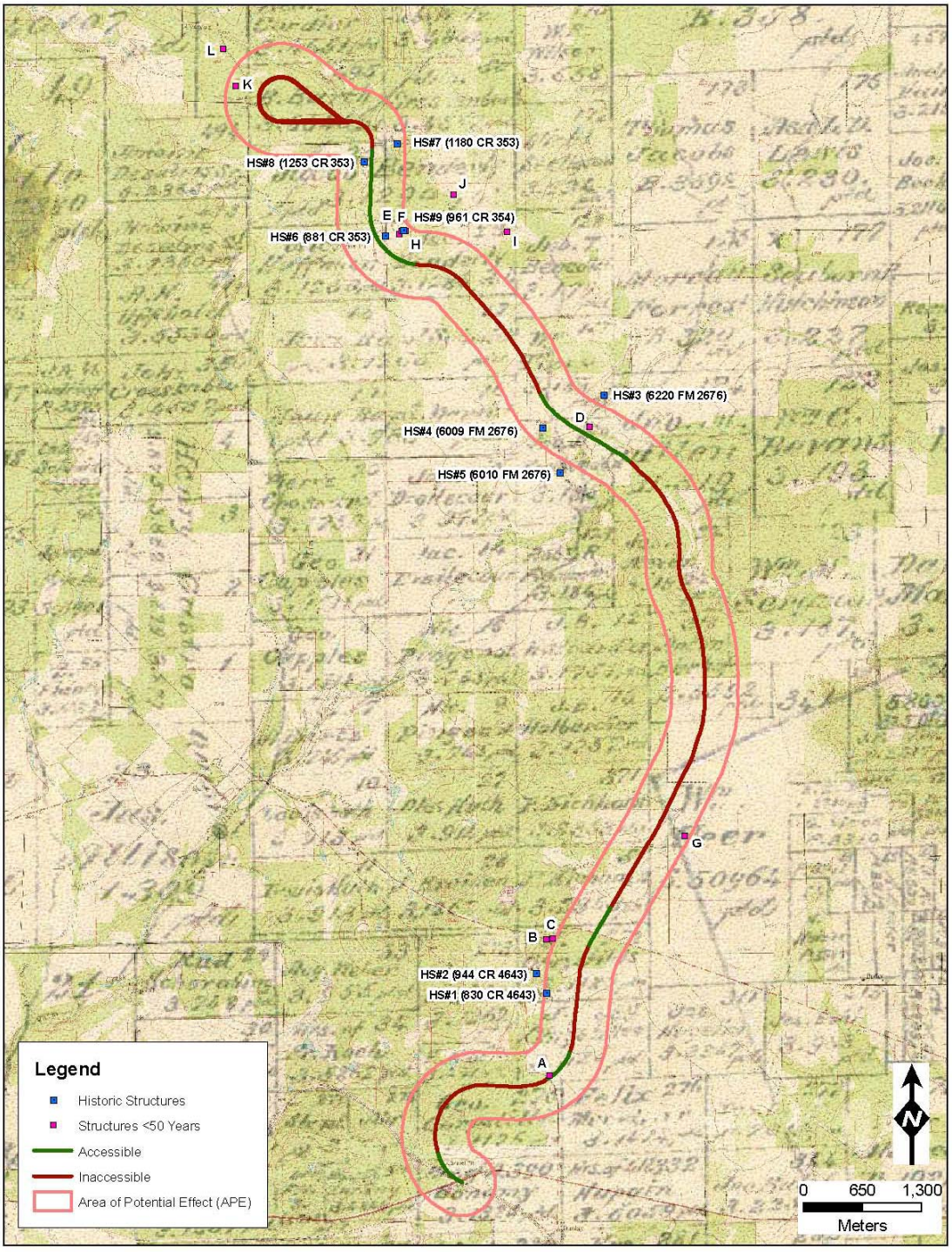

Figure 16 : Georeferenced Topographic Map and 1895 Medina County Map Showing Historic Structure Locations

HS #2
Address: 944 CR 4643
Owner: Hilda Oefinger
Approximate date: 1930
Status: Potentially Eligible

Photo 4: HS #2, 944 CR 4643

HS #2 is a 1-story wood frame residence set among various outbuildings. This residence may have been built in two stages, as massing indicates several elements appended. Because the primary façade and entrance face away from the county road and only the rear façade is visible from the public access, a closer investigation of the front of the property would be necessary to further determine character defining elements and the degree of integrity present. A number of key historic features are identifiable from the public access, and include a cross-gabled (a side-facing gable linked to a steeply pitched hipped gable roof). Two brick chimney stacks protrude for the roof, one centered along the roof slope and the other positioned at the peak marking the transition between the side gable and the hipped gable roofs. Windows on this rear façade are boarded, but the dimensions suggest the presence of both single and paired wood-frame sash windows. The residence is clad in drop-type wood siding typical of this type and period. The character-defining features of this residence that existed during the historic period appear intact, and the resource has a high likelihood of retaining integrity of location, design, setting, materials, workmanship, feeling and association.

This particular property is associated with the Oefinger family, who emigrated to Castroville, New Fountain and Quihi from Wurtemburg, Germany. Members of the Oefinger family, including John, John 2, Paul, Andre and Orsalsa [Ursula], have been listed on the Medina County Census since 1860. The Oefinger family made many significant contributions to the development of nearby communities, for example, Christian Oefinger founded the Bethlehem Lutheran Church in Quihi. The historic significance of this particular property is unknown, but may be linked to a wave of residential development that occurred in the area during the 1920s and 1930s.

HS #3
Address: 6220 FM 2676
Owner: Glen Bohlen
Approximate Date: 1870
Status: Potentially Eligible


Photo 5: HS #3, 6220 FM 2676

HS #3 is a 1 ½ - story residence, displaying elements characteristic of 19th century vernacular architecture found in Castroville, Quihi and throughout Medina County. This saltbox form is typically associated with vernacular architecture imported from the Alsatian region (located between present-day Germany and France), and is often constructed of stone masonry clad in plaster. The structure of this particular property was not visible beneath the stucco or plaster exterior, but the form and gable-end chimney placement indicate a high probability of a masonry structural system. Adjacent landscape elements, including a masonry garden wall and outdoor fireplace or kiln, further substantiate this hypothesis. Notable architectural elements of this historic building include a low pitched, side gable roof extending into a full-facade porch. The porch is supported on turned wood posts, which are formed to match the molding around the chimney cap. These later two details appear to be non-original, but may have replaced the original elements over fifty years ago thus becoming part of the historic development of this property. The centered entry portal is flanked by wood sash windows. The exterior walls and chimney stack are clad in stucco typical of this architectural type and period. Nearby outbuildings include a wood-frame, wood clad barn structure. Landscape features include low stone wall, outdoor stone fireplace, and a windmill positioned near the highway. The character-defining features of this residence that existed during the historic period appear intact with minor alterations, and the resource displays a high degree of integrity of location, design, setting, materials, workmanship, feeling and association.

This particular property is owned by members of the Bohlen family, who came to this area from Hanover, Germany and appears on the Medina County Census as early as 1870. The historic significance of this property is unknown, but the architectural form, construction methods, and estimated construction date suggest that it is linked to the earliest waves of settlement in this area of Medina County, and to some of the earliest settlers. Areas of potential significance for this property could be in the areas of architecture, as an intact representative of 19th century vernacular building types derived from German-Alsatian traditions, and association with early settlement patterns and important persons.

HS #4
Address: 6009 FM 2676
Owner: D. Rios
Ranch Name: Los Papalotes
Approximate date: 1880
Status: Potentially Eligible


Photo 6: HS #4, 6009 FM 2676

HS #4 is a 1-story masonry building, displaying characteristics typical of the late 19th century vernacular architecture found in Medina County. Although this building differs from the saltbox form associated with German-Alsatian building traditions, it does display similar planning, construction methods, and materials common to pioneer dwellings. This building is characterized by masonry exterior walls clad in plaster or stucco (now partially eroded), and a low-pitched side-gabled roof. The roof structure was originally constructed of wooden rafters clad with wood shingles, but is now over-clad with corrugated metal (presumably to preserve underlying historic building materials). A stone chimney and chimney stack protrude on the gable end, a placement that is common in warm climates such as Texas. The façade is arranged asymmetrically, with a centered front portal flanked on the left by two single sash windows on the west and one singe window (of smaller dimension). As was typical of pioneer homes of this period and region, this residence appears to be only one room deep and symmetrical form from side to side, with a possible addition of a single bay to the left side of the building (which would account for the asymmetrical façade arrangement). The use of vertical plank siding rather than stone and the insertion of framed windows of differing dimension from the original single opening to the far right of the main façade suggest an addition to the original structure or possibly indicate a structural failure in the exterior masonry wall that was later remedied with this infill construction. The overall form of this residence remains intact although materials have degraded. Nearby structures and objects include a concrete cistern, outhouse, windmill, and non-historic log cabin that has clearly been moved onto the property. The character-defining features of this residence that would have existed during the historic period appear intact, and the resource displays a moderate degree of integrity of location, design, setting, materials, workmanship, feeling and association.

Although the historic significance of this property is unverified, the type, construction method, materials and estimated construction date of this building suggest that is associated with early settlement of Medina County. The building's close proximity to FM 2676 (Old Castroville Road), and to other historic resources of similar architectural character and age further substantiates this potential association.

HS #5
Address: 6010 FM 2676
Quihi Creek Ranch
Owner: unknown
Approximate date: unverified


Photo 7: HS #5, 6010 FM 2676

HS #5 is a 1-story single-family home clad in masonry, displaying stylistic influence associated with local vernacular traditions dating to the late 19th century. This particular residence appears to be new construction that adopts historic stylistic vocabulary associated with the German-Alsatian tradition, but the resource is located a great distance from the public access and a determination cannot be made without closer investigation.

HS #6
Address: 881 CR 353
Owner: J. Dittmar
Approximate date: 1930
Status: Potentially Eligible


Photo 8: HS #6, 881 CR 353

HS #6 is a 1-story wood frame residence, displaying stylistic influence derived from the American bungalow. This particular example is characteristic of vernacular derivatives popular in the United States between approximately 1905 and 1935. Elements include a low pitched, front gable roof over an offset partial-width front gable porch supported on squared Doric columns. Decorative vertical trimmings are visible at the peak of the gable roof of both the main mass and the porch, and rafter end are exposed at the eaves. The primary entrance appears to be centered in the façade beneath the porch, and is flanked by a single wood sash window. Paired sash windows pierce the side elevations. The residence is clad in clapboard wood siding typical of this type and period. The character-defining features of this residence that existed during the historic period appear intact, and the resource displays integrity of location, design, setting, materials, workmanship, feeling and association.

The historic significance of this property is unknown, but may be linked to a wave of residential development that occurred in the area during the 1920s and 1930s. Several resources in this area are of the same approximate construction period, including HS #1,

which bears a strong similarity to this property. Much of this development seems to be tied with descendants of the original settlers of Quihi and New Fountain, as family names of historic note are attached to many of these properties. This pattern of settlement suggests that subsequent generations obtained nearby property or divided family lands and constructed their own homes as they came of age or were married.

HS #7
Address: 1180 CR 353
Owner: Margie Sturm
Approximate date: 1940
Status: Undetermined

Photo 9: HS #7, 1180 CR 353

HS #7 is not clearly visible from the public access, but the massing and line suggest this building is 50 years old or older. Given its proximity to other historic properties, this particular building and surrounding structures warrant further investigation.

This property is associated with descendants of the Sturm family, who came to this area from Wurtemburg, Germany and appears on Medina County Census as early as 1860. The historic significance of this particular property is unknown, but may be linked to a wave of residential development that occurred in the area during the 1920s and 1930s. Much of this development seems to be tied with descendants of the original settlers of Quihi and New Fountain, as family names of historic note are attached to many of these properties. This pattern of settlement suggests that subsequent generations obtained nearby property or divided family lands and constructed their own homes as they came of age or were married.

HS #8
Address: 1253 CR 353
Owner: C.R. Saathoff
Approximate date: 1930
Status: Potentially Eligible


Photo 10: HS #8, 1253 CR 353

HS #8 is a 1-story wood frame residence, displaying stylistic influence derived from the American bungalow. This vernacular derivative is

characterized by its steeply pitched hipped roof with a flat-roof porch extension supported on metal posts. The exterior is sheathed in drop-type wood siding, and most windows are paired wood sash. Details appear to be minimal. Because this house is located at a distance from the public access, closer investigation would be necessary to make a formal determination.

This property is associated with descendants of the Saathoff family, one of the original families to settle in this area. Mimke Saathoff and his family emigrated from Hanover, Germany to Medina County in 1846 as part of Castro's Colony. Members of the Saathoff family appear on the Medina County Census of 1850 (and beyond) as residents of New Fountain. A branch of the family was also associated with the town of Verdina, fourteen miles northeast of Hondo. The Schuehle-Saathoff House (ca 1870) in Quihi is listed on the National Register of Historic Places. The historic significance of this particular Saathoff property is unknown, but may be linked to a wave of residential development that occurred in the area during the 1920s and 1930s. This pattern of settlement suggests that descendants of the first German settlers obtained nearby property or divided family lands and constructed their own homes as they came of age or were married.

HS #9
Address: 961 CR 354
Owner: unknown
Approximate date: 1940
Status: Potentially Eligible, though historic form must be verified


Photo 11: HS #9, 961 CR 354

HS #9 is a 1-story frame building displays characteristics typical of early 1940s vernacular residential design often denoted as minimal-traditional. This small home is characterized by its side-gable roof accentuated by a small cross gable emerging from its peak. Rafter ends are exposed under the eaves. The roof is sheathed in standing seam metal, and the exterior walls are clad with irregular courses of ashlar masonry stone (non-load bearing). The front-gabled porch extends slightly from the façade, and is supported on decorative metal piers. The façade is symmetrically arranged, with 1/1 wood Sash windows flanking a set of double entry doors. Although this home is at least fifty years old, it appears to have been superficially modified with non-original elements such as masonry cladding, metal roofing material, and porch supports (although these changes could have been made over 50 years ago). The historic appearance of this building would need to be verified in order to determine its integrity and make a formal

determination of eligibility. The historic significance of this property is unknown, but may be linked to a wave of residential development that occurred in the area during the 1920s and 1930s, and possibly into the 1940s. Much of this development seems to be tied with descendants of the original settlers of Quihi and New Fountain, as family names of historic note are attached to many of these properties.

Recommendations

GTI has conducted a reconnaissance cultural resources survey for an eastern route. Portions of the project area, however, were not accessible. Figure 13 and Figure 15 show the areas that were accessible to the archeologist and architectural historian. Based on the archeological field investigations, Mr. Sergio Iruegas confirmed the high probability areas where archeological resources are likely to be present. There were no archeological sites noted during the reconnaissance survey.

The architectural historian identified six historic buildings within the APE, three historic buildings within approximately 200 feet of the APE, and twelve buildings less than 50 years old (seven of which are inside the designated APE). The buildings that fall outside of the designated APE, such as HS #2, were taken into consideration because it appears that the APE crosses through property boundaries (possibly historic land divisions) and several associated outbuildings may fall within the designated APE. The precise locations of all nine historic structures were obtained with a Magellan Explorist 100 GPS hand-held unit (WAAS enabled to provide three meter accuracy) and correlated onto the 7.5 minute USGS topographic maps. All historic structures within the APE or immediately adjacent (approximately 200 feet) were considered not only for their individual eligibility but for possible inclusion in a historic district or rural historic landscape (a subcategory of the historic site or historic district designation). Ms. Monica Penick determined that the nine historic properties identified as part of the reconnaissance-level survey are potentially eligible for listing in the National Register of Historic Places. The likelihood of a historic residential district encompassing these nine properties appears low, due in part to the proximity of a number of non-historic properties. Because of limited accessibility to various individual properties along the eastern route, the reconnaissance-level survey was not sufficient to identify, evaluate or document rural historic landscapes. The Programmatic Agreement contemplates that a more intensive survey and review of the possibility of the historic landscape in the area of the eastern route would be undertaken should this route be chosen for construction. It is GTI's opinion that intensive cultural resource investigations are warranted within the proposed eastern route APE to fully document the cultural resources, if STB approves this route and the Programmatic Agreement is in place.

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Appendix A

Scope of Work

Scope of Work

Prior to field investigations, González, Tate & Iruegas, Inc. (GTI) submitted this proposed scope of work to the THC for review and it was approved on July 15, 2005. As in the previous alternative alignments surveys, the Area of Potential Effect (APE) was proposed to be within 1200 feet on either side of the right of way of the potential eastern route. Since this project is for a potential eastern route, right-of-entry was not granted for the entire route. Therefore, the reconnaissance survey was limited to road right of ways. In some cases, the ground surface was inspected at the edge of plowed fields within high probability areas where archeological resources were likely to be present, and digital photographs were taken of any potential historic properties.

Identification and Evaluation of Historic Properties

Qualified personnel of the appropriate profession will conduct reconnaissance archeological and architectural surveys within the APE to locate archeological sites, buildings or other structures, objects or districts that may be eligible for listing in the National Register of Historic Places.

GTI will ensure that:

1. The work will be conducted in compliance with the Secretary of the Interior's *Standards and Guidelines for Archeology and Historic Preservation,* 48 *Fed. Reg*. 44716, September 29, 1983.

2. Any archeological sites, buildings or other structures, objects or districts located during the survey will be evaluated for eligibility for listing in the National Register of Historic Places in accordance with 36 CFR Part 800.4 within the context of a reconnaissance survey. GTI will also consider other applicable State of Texas laws, standards, and guidelines related to Historic Properties report documentation, specifically, the Antiquities Code of Texas, Title 9, Chapter 191 of the Texas Natural Resource Code; Rules of Practice and Procedure Chapter 26.24 and Chapter 26.25, and the Texas Historical Commission's Minimum Archeological Survey Standards, in accordance with 36CFR800.4(b)(1).

3. GTI will submit to SGR a report that meets the Secretary's Standards for Identification, Archeological Documentation and Historical Documentation. The report shall include but not be limited to all of the following:

A. For buildings and other structures, objects and districts, the documentation will include the following for the areas of reconnaissance survey, outside 300 feet on either side of the right of way, but within 1200 feet on either side of the right of way of the Approved Corridor, for any property over 45 years old:

   i. A map showing the location of the historic properties in relation to the potential eastern route and the alternative alignments; and
   ii. Clear photographic prints, including at least one front elevation of each property surveyed, and area or streetscape views in potential districts.

B. Identification of historic and prehistoric archeological high probability areas, buildings and other structures, objects, districts, traditional cultural properties, and cultural or historic landscapes located during the reconnaissance survey that may be eligible for listing or listed in the National Register of Historic Places;

C. Reconnaissance survey level recommendations regarding National Register eligibility of cultural resources identified in 2 above; and

D. Reconnaissance survey level recommendations and descriptions on findings of potential Project effects on potentially eligible historic and prehistoric archeological sites, buildings and other structures, objects, districts.

Where ever possible, evidence of soil profiles erosion was noted and examined for cultural materials. Field notes were maintained on terrain, vegetation, soils, land forms, etc. Photographs were taken of general project area views where the route traverses the landscape and historic structures. General location data of the historic structures was acquired via handheld Global Positioning System (GPS) units (Etrex) using the UTM coordinate system and map datum NAD 83. The GPS waypoints were entered into National Geographic Topo software that showed the precise location where the photographs were taken, and each GPS waypoint was correlated with structures indicated on the USGS quadrangle maps.

Appendix B

Texas Historical Commission
Approval for
Scope of Work

González, Tate & Iruegas, Inc.
Environmental Consultants

RECEIVED
JUL 14 2005
TEXAS HISTORICAL COMMISSION

July 11, 2005

Mr. Bill Martin
Texas Historical Commission
P. O. Box 12276
Austin, Texas 78711

Re: Southwest Gulf Railroad proposed Eastern by-pass route

Dear Mr. Martin,

I am submitting the attached reconnaissance cultural resources survey scope of work for your review and approval. Southwest Gulf Railroad (SGR) would like to consider possible effects to cultural resources within a potential eastern by-pass route for its proposed railroad. This eastern by-pass route is not one of the alternative alignments discussed in the draft Environmental Impact Statement associated with its proposed railroad project in Medina County. González, Tate & Iruegas, Inc. has emphasized that this survey will be at the reconnaissance level and recommendations will be limited to a statement that further work is warranted at an intensive survey level or that no further work is necessary.

If you have any questions, please contact me at 512/914-4842.

Thank You,

Sergio A. Iruegas, RPA
President/Cultural Resources Director

CONCUR
by _____
for F. Lawerence Oaks
State Historic Preservation Officer
Date 7/15/05

8127 Mesa Drive
Suite B206, PMB117
Austin, Texas 78759

Voice: 512-914-4841
Fax: 512-241-0851
Email: gti@gtienvironmental.com

#EI-1749
RH

STEPTOE & JOHNSON LLP

ATTORNEYS AT LAW

David H. Coburn
202.429.8063
dcoburn@steptoe.com

1330 Connecticut Avenue, NW
Washington, DC 20036-1795
Tel 202.429.3000
Fax 202.429.3902
steptoe.com

November 14, 2005

VIA HAND DELIVERY

Ms. Rini Ghosh
Section of Environmental Analysis
Surface Transportation Board
1925 K Street, N.W.
Washington, D.C. 20423

Re: STB Finance Docket No. 34284, Southwest Gulf Railroad Company – Construction and Operation Exemption – Medina County, TX

Dear Ms. Ghosh:

This will respond on behalf of Southwest Gulf Railroad ("SGR") to three questions that you have recently posed.

First, you have asked about the extent to which the Eastern Route described in SGR's June 6, 2005 letter to SEA, and discussed most recently in SGR's September 7, 2005 letter, was the product of field work by SGR, and the extent to which this alignment might cut directly through any homes in the area. SGR developed this alignment, in response to a request by SEA, after several field trips to the area by SGR/Vulcan officials, as well as an aerial inspection. All of the property over which the alignment would traverse is privately owned and SGR did not have permission to enter this property. It was therefore impossible to achieve physical access to all of the land that would be traversed by this alignment. Observations were necessarily limited to those portions of the alignment that could be inspected from public roads, as well as the aerial inspection.

Based on its inspection of the area, SGR is not aware that the Eastern Route it has described would require the removal of any homes. Further, in the event that further field inspections indicate that there are homes or other structures in the direct path of the alignment, SGR is confident that the alignment could be refined upon final engineering to avoid any homes or other structures that might exist within the right of way.

The Cultural Resources Reconnaissance Survey Report of the Eastern Route undertaken by SGR's cultural resources consultant, GTI, was also based on field observations of the Eastern Route, as described in that Report. As in the case of the field inspections undertaken by SGR/Vulcan, these were

necessarily limited to observations of the alignment from public roads. Based on those observations, GTI did not identify any homes or structures in the direct path of the alignment so as to require their removal. Certain other homes and other structures in the area proximate to the alignment are shown on Figures 15 and 16 of that Report.

Second, you inquired as to the speed of trains that would operate over the line, and specifically about the extent to which speeds will exceed 25 miles per hour, and what the maximum speed of trains operating on the line might be. Your question, we understand, was occasioned by a statement at pages 12-13 of SGR's September 7, 2005 letter that, "the average speed of trains operating on the line may be 25 miles per hour and therefore top speeds are expected to exceed 25 miles per hour." SGR hereby clarifies the above statement to eliminate any suggestion that trains operating on the SGR line would significantly exceed 25 miles per hour. While SGR anticipates that track geometry will allow for a maximum speeds of 40 mph on all or most of the alignments under review, SGR does not anticipate that trains will generally operate at that speed. Rather, SGR expects that the typical speed of its trains will be 25 miles per hour. Train speeds will obviously be somewhat slower as the trains approach the quarry and possibly near the intersection with the UP line. While a train might also occasionally exceed 25 miles per hour by some modest measure (and the degree to which this could happen will depend to some degree on the curves and grade of the alignment that is ultimately constructed), SGR believes that 25 miles per hour likely will be the most frequently experienced speed of the trains.

Third, you have inquired about the extent to which SGR will operate trains during nighttime hours, which we understand SEA has defined as the period between 10 pm and 7 am. SGR anticipates that most train operations will occur between 7 am and 10 pm, but that due to operational constraints of the Class 1 carriers or the needs of Vulcan or other SGR customers, nighttime operations may be required at times. It is obviously difficult to know with any certainty at this time the hours during which any particular train movement will operate as this will depend to a considerable degree on the operational needs of other railroads and customers. SGR nonetheless understands that SEA needs to work with a reasonable assumption about the level of such nighttime operations for purposes of noise and perhaps other analyses of the impacts of SGR operations. In that regard, SGR believes that it would be reasonable to assume that one out of every six round trip train operations would take place during nighttime hours. In SGR's view, this is a liberal or "worst case" assumption as actual nighttime operations might in fact prove to be less frequent.

Please let me know if you have any further questions.

Sincerely,

David H. Coburn
Attorney for Southwest Gulf Railroad Company

cc: Ms. Vicki Rutson, Chief, SEA
Ms. Jaya Zyman-Ponebshek, URS
Mr. Tom Ransdell, SGR

#EI-1981
RG

STEPTOE & JOHNSON LLP

ATTORNEYS AT LAW

David H. Coburn
202.429.8063
dcoburn@steptoe.com

1330 Connecticut Avenue, NW
Washington, DC 20036-1795
Tel 202.429.3000
Fax 202.429.3902
steptoe.com

April 19, 2006

Ms. Rini Ghosh
Section of Environmental Analysis
Surface Transportation Board
1925 K Street, N.W.
Washington, D.C. 20423

Re: STB Finance Docket No. 34284, Southwest Gulf Railroad Company – Construction and Operation Exemption – Medina County, TX

Dear Ms. Ghosh:

This will reply on behalf of Southwest Gulf Railroad Company ("SGR") to certain questions posed by your office with respect to the cut and fill analysis that URS is undertaking in connection with the preparation of a Supplemental Environmental Impact Statement.

1. What size rail section and what type and length of crossties does SGR propose to use?

   SGR intends to utilize 119# rail section (CWR) and industrial grade crossties (7 1/2" x 8 1/2" x 8 ½') However, market conditions and materials availability at the time of construction may necessitate the use of alternative rail construction materials.

2. What is the maximum degree of curvature that will be used?

   The maximum degree of curvature will vary from 3°-00' on SGR's main track to 7°-30' on the loop track.

3. Will the track be constructed and maintained to FRA Class 2 or Class 3 standards?

   The proposed track will be constructed and maintained to FRA Class 3 standards.

4. Why is an industrial track cross-section with 6 inches of sub-ballast and 6 inches of ballast rather than a standard mainline cross-section with CWR and 10 to 12 inches of sub-ballast and 12 inches of ballast such as that used by the Union Pacific Railroad?

This cross-section is based on preliminary engineering analysis and assumptions. Final engineering design of the roadbed will be further clarified upon completion of a geotechnical study of an approved route.

5. What type of bridge construction does SGR plan to use?

   The design of bridge(s) has not been undertaken at this time. Where a bridge is required, SGR will design and construct such a bridge incorporating commonly used materials such as timber, concrete and steel, or some combination thereof.

6. Will passing sidings be provided? What is the average length and spacing?

   No passing sidings are planned along the SGR line.

7. How will the interchange with the Union Pacific Railroad be conducted with respect to trackage and operations?

   Details have yet to be worked out with the Class I railroads that may serve the area as to how cars will be interchanged.

8. Will a gravel access road be provided adjacent to the track? If so, typically at what location?

   A gravel access road to be used solely for servicing and maintaining the track will be provided immediately adjacent to the track, other than at crossings of drainage features.

9. What type of culvert construction will be used?

   Corrugated metal pipe (CMP), concrete box culverts, or a combination thereof will be utilized for this project.

10. Will retaining walls be used? At what locations will retaining walls typically be used?

    Retaining walls may be used in areas of significant excavation where soils are considered to be unstable. Those areas will be evaluated during the geotechnical study phase of an approved route.

11. What type of retaining wall construction will be used?

    Retaining wall construction type will be determined during the geotechnical study phase of an approved route.

12. What type of locomotives (if not UP power) and aggregate cars will be utilized?

Diesel-Electric locomotives, the number and horsepower requirements for which will be determined upon the approval of a final route and the design grade of such route is finalized. Gondolas and/or bottom-dump hopper cars will be utilized for the transport of the aggregate.

Please let me know if you have any further questions.

Sincerely,

David H. Coburn
Attorney for Southwest Gulf Railroad

cc: Ms. Vicki Rutson
Ms. Jaya Zyman-Ponebshek

#EO-272
RG

SURFACE TRANSPORTATION BOARD

Washington, DC 20423

Office of Economics, Environmental Analysis, and Administration

May 8, 2006

Mr. David Coburn, Esq.
Steptoe & Johnson, LLP
1330 Connecticut Avenue, NW
Washington, DC 20036-1795

Re: STB Finance Docket 34284, Southwest Gulf Railroad Company Construction and Operation Exemption – Medina County, TX – **Request for Information**

Dear Mr. Coburn:

The Surface Transportation Board's Section of Environmental Analysis (SEA) is currently working on preparing responses to the comments received on the Draft Environmental Impact Statement (Draft EIS), issued on November 5, 2004, for Southwest Gulf Railroad Company's (SGR) proposal to construct and operate a rail line in Medina County, Texas. SEA appreciates the information regarding the project proposal that SGR has provided thus far. In conducting additional noise analyses, SEA has identified some information needs and would appreciate receiving the following additional information from SGR:

1. Please identify all potential braking zones along each of the seven alternative rail alignments being studied by SEA (Proposed Route, Alternative 1, Alternative 2, Alternative 3, Eastern Bypass Route, the MCEAA Medina Dam Alternative, and SGR's Modified Medina Dam Route).

2. Please provide a map showing a detailed footprint of the quarry with "limits of blasting" and proposed rail loading areas shown, if available.

3. Please provide the following information regarding quarry blasting activities for SEA's analysis of cumulative noise impacts: (1) the typical size of the charge per hole and the number and depth of holes or total charge weight; (2) the number of blasts per month (SGR has previously indicated that blasting would occur five times per week when the quarry is operating at its design capacity); (3) time of the day of the blasting; and (4) information regarding typical quarry noise levels from other similar quarries.

4. Please provide the following information regarding the loading track area: hours of train activity at the loading track area (same as for the rest of the rail line or different); whether spring-loaded frogs (i.e., crossovers) would be used at the loading track; the maximum train speeds proposed for the tangent track (i.e., straight track

sections as opposed to radius or curved track) and loading track, with the likely notch setting of the throttle. SEA notes that SGR has previously indicated that it anticipates that track geometry would allow for maximum speeds of 40 miles per hour on all or most of the alternative rail alignments.

We thank you in advance for your cooperation and your response to this information request. If you need additional information or have any questions, please do not hesitate to contact me or Rini Ghosh of my staff at (202) 565-1539.

Sincerely,

Victoria Rutson
Chief
Section of Environmental Analysis

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RA

STEPTOE & JOHNSON LLP

ATTORNEYS AT LAW

David H. Coburn
202.429.8063
dcoburn@steptoe.com

1330 Connecticut Avenue, NW
Washington, DC 20036-1795
Tel 202.429.3000
Fax 202.429.3902
steptoe.com

May 25, 2006

VIA HAND DELIVERY

Ms. Victoria Rutson
Chief
Section of Environmental Analysis
Surface Transportation Board
1925 K Street, N.W.
Washington, D.C. 20423

Re: STB Finance Docket 34284, Southwest Gulf Railroad Company Construction and operation Exemption – Medina County, TX – Request for Information

Dear Ms. Rutson:

This will respond to your May 8, 2006 letter requesting information on various noise matters in connection with the Supplemental EIS being prepared for the Southwest Gulf Railroad. We understand that this information has been requested, in part, in connection with the cumulative impacts analysis.

1. Please identify all potential braking zones along each of the seven alternative rail alignments being studied by SEA (Proposed Route, Alternative 1, Alternative 2, Alternative 3, Eastern Bypass Route, the MCEAA Medina Dam Alternative, and SGR's Modified Medina Dam Route).

   Assuming the braking zones are defined as those located in the vicinity of and in advance of stopping areas, the potential braking zones for each of the alignments will be located near the UPRR main line, , in the area near the point of entry into the proposed quarry site and, in the case of the two Eastern alignments described on the table below, at the point of approach to curves on those alignments. The table below summarizes the station number where those braking zones are projected for the proposed route and the five alternative alignments as submitted by SGR. SGR has no information on the MCEAA Medina Dam Alternative, but would suggest that braking zones for this alternative will be very similar to those of the Modified Medina Dam Route. The station numbers referred to in the chart below correspond to the station numbers shown on maps previously supplied to SEA under cover of SGR's September 7, 2005 letter.

Southwest Gulf Railroad - Medina, Texas
Potential Braking Zones

Alignment	Begin. Station	End Station
Proposed Route	0+00 370+00	30+00 400+00
Alternative 1	0+00 460+00	90+00 490+00
Alternative 2	0+00 350+00	30+00 380+00
Alternative 3	0+00 370+00	30+00 400+00
Modified Medina Dam Route	0+00 60+00 530+00	30+00 90+00 590+00
Eastern Bypass Route	0+00 70+00 460+00	30+00 100+00 490+00

2. Please provide a map showing a detailed footprint of the quarry with "limits of blasting" and proposed rail loading areas shown, if available.

   See Exhibit A, attached, which is an aerial map of the quarry area supplied by Vulcan. The green lines on the map denote the boundaries of the three properties leased by Vulcan for the quarry project. The yellow lines show the plant area to be developed to support quarry operations, and the light blue lines in the shape of a loop denote the rail loading loop. The reddish/black line denotes the footprint of the quarry (pit) and the "limit of blasting" for the quarry. Please note that the quarry will grow over a 20 plus year period to meet the limits shown on the attachment. All blasting will be limited to the footprint of quarry, other than some minor blasting that may be required during site preparation for the plant.

3. Please provide the following information regarding quarry blasting activities for SEA's analysis of cumulative noise impacts: (1) the typical size of the charge per hole and the number and depth of holes or total charge weight; the number of blasts per month (SGR has previously indicated

that blasting would occur five times per week when the quarry is operating at its design capacity); (3) time of the day of the blasting; and (4) information regarding typical quarry noise levels from other similar quarries.

The shot design for the proposed quarry is predicated on providing adequate shot rock to meet the productive capacity of the facility, while considering the vibration and noise impact of the event. Accordingly, a typical shot will consist of 28 holes, with a pattern of 16 feet of burden and 18 feet spacing. These holes will be 6.5 inches in diameter and are 50 feet deep. The charge weight per hole will be 559 pounds. This shot size will require Vulcan to blast about 5 times per week (and thus about 20 times per month). We anticipate the blast events to normally take place anytime between 11:00 A.M and 4:00 P.M. Air overpressure models predict this charge weight to produce 125 dbL at 1,015 feet, diminishing as the distance to the blast location increases. The duration od each blast event should be less than one second.

Information regarding typical quarry noise will be submitted under separate cover.

4. Please provide the following information regarding the loading track area: hours of train activity at the loading track area (same as for the rest of the rail line or different); whether spring-loaded frogs (i.e., crossovers) would be used at the loading track; the maximum train speeds proposed for the tangent (i.e., straight track sections as opposed to radius or curved track) and loading track, with the likely notch setting of the throttle. SEA notes that SGR has previously indicated that it anticipates that track geometry would allow for maximum speeds of 40 miles per hour on all or most of the alternative rail alignments.

Hours of train activity at the loading track area depend on the time of day a unit train is received at the proposed quarry for loading. Vulcan's proposed facility will have a design load-out capacity which will allow a unit train to be loaded within eight (8) hours. Generally, we anticipate this activity to occur between the hours of 7:00 A.M and 10:00 P.M; however, there may be instances where loading must occur at times other than those stated above in order to meet the operational needs of the Class I railroads.

While frog type(s) for the proposed loading track have not yet been identified, SGR proposes to utilize Solid Manganese Self-guarded (SMSG) frogs at the loading track area due to their relatively easy maintenance, compared to the spring frog.

The proposed loading track will be designed for a maximum tangent speed of 25 miles per hour, but the expected actual speed of trains on the loading track will be much lower (i.e., 5 to 10 miles per hour). The rail alignments for the tracks other than the loading tracks will be designed for a maximum speed of 40 miles per hour, although average train speeds are expected to be lower as SGR has previously advised SEA.

We trust that the above is responsive to your questions. Please let us know if you have any further questions.

Sincerely,

David H. Coburn
Attorney for Southwest Gulf Railroad

cc: Ms. Rini Ghosh
Ms. Jaya Zyman Ponebshek

Original submitted in color.

#EI-2189
RS

STEPTOE & JOHNSON LLP

ATTORNEYS AT LAW

David H. Coburn
202.429.8063
dcoburn@steptoe.com

1330 Connecticut Avenue, NW
Washington, DC 20036-1795
Tel 202.429.3000
Fax 202.429.3902
steptoe.com

June 9, 2006

Ms. Victoria Rutson
Chief
Section of Environmental Analysis
Surface Transportation Board
Washington, DC 20590

Re: STB Finance Docket 34284, Southwest Gulf Railroad Company Construction and operation Exemption – Medina County, TX – Request for Information

Dear Ms. Rutson:

This will supplement the May 25, 2006 response of Southwest Gulf Railroad to one of the questions posed to SGR in SEA's May 8, 2006 letter. Specifically, question 3 of that letter asked for information regarding typical quarry noise levels from other, similar quarries. We understand that this question was posed in connection with SEA's cumulative impacts analysis of the noise that would be generated by both SGR's rail line and Vulcan's quarry.

In the ordinary course of its quarrying operations, Vulcan does not compile noise data. Further, Vulcan understands that such data is also not compiled or maintained by the trade association of quarry operators. However, some data that SEA may find relevant is set forth on the attached CD. This CD contains an electronic file (in excel format) that displays noise data generated by the operation of various types of quarrying and related equipment, including large vehicles, operating at Vulcan's Manassas, VA quarry. The data was compiled from noise monitoring done at that quarry by the consulting firm of Skelly and Loy, Inc. The Manassas quarry is generally similar in size to the planned Medina County quarry and is generally typical of many quarry operations. Further, the quarrying and processing equipment studied at Manassas is similar (although not identical in all cases) to the types of equipment that will be used at the Medina County quarry. Thus, the data is informative of the general range of noise that might be expected to be generated at the Medina quarry.

Finally, SGR's May 25 response to another portion of question 3 included the following statement: "Air overpressure models predict this charge weight to produce 125 dbL at 1,015 feet, diminishing as the distance to the blast location increases." In order to avoid any confusion regarding this statement, SGR believes that it is important to clarify that the referenced measure of 125 dbL is

actually a measurement of air overpressure (i.e., pressure differential). In other words, this predicted reading is not a measurement of sound levels (i.e., noise) and should not be interpreted as such.. SGR is advised that Vulcan does not measure blast-related noise levels in the ordinary course, and is not aware of any situations in which such measurements are undertaken at any of its quarries.

We trust that the attached information is responsive to your question. Please let us know if we can be of further assistance.

Sincerely,

David H. Coburn
Attorney for Southwest Gulf Railroad

cc: Ms. Rini Ghosh (w/attachment)
Ms. Jaya Zyman Ponebshek (w/attachment) (via Federal Express)

Please contact the Section of Environmental Analysis to view a copy of the submitted electronic file.