

## EXECUTIVE SUMMARY

On February 27, 2003, Southwest Gulf Railroad Company (SGR) filed a petition with the Surface Transportation Board (Board) for authority to construct and operate a new rail line in Medina County, Texas.<sup>1</sup> SGR's proposal involves the construction and operation of a short (approximately seven mile) new rail line from a Vulcan Construction Materials, LP (VCM) proposed limestone quarry to the Union Pacific Railroad Company (UP) rail line near Dunlay, Texas.

The Board's Section of Environmental Analysis (SEA) conducted a thorough and comprehensive analysis of all of the potential environmental impacts associated with construction and operation of the proposed new rail line. That analysis involved the development of a comprehensive environmental record to consider and study not only the proposed route but several alternatives.

SEA issued a Draft Environmental Impact Statement (DEIS) on November 5, 2004, for public review and comment. The DEIS evaluated the potential environmental impacts that could result from SGR's proposed rail line construction and operation, as well as four alternatives (including the No-Action Alternative) to SGR's Proposed Route<sup>2</sup> and recommended mitigation that could be undertaken to reduce the potential impacts identified. In response to the DEIS, SEA received approximately 120 written comment letters, as well as oral comments submitted at two public meetings held in Hondo, Texas, on December 2, 2004.

After carefully reviewing all comments received, as well as additional information about the project proposal submitted by SGR, SEA decided to prepare a Supplemental Draft Environmental Impact Statement (SDEIS). The SDEIS focused on three specific matters: (1) to seek to avoid potential impacts to the historically sensitive Quihi area, it evaluated three Eastern Alternative rail routes that were not studied in detail in the DEIS and compared these three alternative routes to the four rail routes previously studied in the DEIS and to the No-Action Alternative;<sup>3</sup> (2) it discussed the progress of additional historic property identification efforts following issuance of the DEIS; and (3) it provided an additional noise analysis that SEA performed based on updated operational data provided by SGR indicating that trains may operate during nighttime hours. In response to the SDEIS, SEA received 237 written comments. Chapters 5 and 6 of this Final Environmental Impact Statement (FEIS) provide a summary of all the comments received on the DEIS and SDEIS with SEA's corresponding responses.

SEA has concluded that the following Eastern Alternatives (the Eastern Bypass Route, the Modified Eastern Bypass Route, and the MCEAA Medina Dam Alternative) would be the environmentally preferred alignments. Should the Board authorize construction and operation of the proposed rail line, SEA recommends that it authorize all of these routes, subject to the 91 environmental mitigation measures set out in this FEIS. These conditions, which address a number of environmental resource areas, such as groundwater; surface water and wetlands; traffic safety; noise and vibration; biological resources; air quality; land use; and historic preservation, would minimize the potential adverse environmental effects of the construction and operation of the proposal.

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<sup>1</sup> SGR did so by filing a request under 49 U.S.C. 10502 for an exemption from the requirements of 49 U.S.C. 10901.

<sup>2</sup> SEA has defined the No-Action Alternative as the use of trucks to transport limestone from VCM's quarry to the UP rail line, based on SGR's statements that VCM would transport the material by truck if SGR's rail line were not built. Commenters to the DEIS suggested that SEA's definition of the No-Action Alternative is incorrect. SEA responds to these comments in this FEIS.

<sup>3</sup> The map at Figure ES-1 below sets out all the alternatives that SEA has studied.

## **ES 1.0 Purpose of Proposed Action**

SGR states in its petition filed with the Board on February 27, 2003<sup>4</sup> that the primary purpose of the proposed rail line construction and operation is to transport limestone from VCM's quarry to the UP rail line for shipment to markets in the Houston area, as well as to other markets in the Southeast, Gulf Coast, and Rio Grande Valley regions of Texas. SGR intends to hold itself out as a "common carrier" – that is, a railroad that has an obligation to provide reasonable service upon reasonable request to all shippers tendering traffic, applying publicly disclosed rates and service terms (see 49 U.S.C. 11101) that would include providing service to other industries that might locate to the area in the future. SGR states that it may enter into an agreement with an existing rail carrier, such as UP, to operate the line for SGR, should the Board issue final approval for SGR's petition. Any such carrier would need to seek separate Board authority to operate over the line. SEA's environmental review of SGR's petition has examined both the proposed rail construction and proposed rail operations, taking into consideration that SGR may not be the actual operator of the proposed rail line.

### **ES 1.1 Description of the Proposed Action**

SGR proposes to construct a short (approximately seven-mile) single-track rail line between VCM's proposed quarry site and UP's Del Rio Subdivision rail line. As part of the proposed action, a loading track would be built at the quarry site to handle and load materials into rail cars. An automated aggregate loading system would be used to load the rail cars. The layout of the loading track would consist of either a two-mile loading loop or a series of one-mile parallel tracks in the same general vicinity. In addition to the loading track, SGR would also construct a rail interchange area, close to the connection with the UP line, consisting of a single main track with a possible side track approximately one mile long, which could be used to temporarily store a loaded or unloaded train.

SGR states that the proposed rail line construction and operation is needed to more efficiently transport limestone aggregate from VCM's proposed quarry to the UP rail line. Based on estimated rail shipments totaling five million tons per year, SGR expects to operate approximately four trains per day, (two inbound (empty) and two outbound (loaded) trains), upon full operation of the proposed quarry for the reasonably foreseeable future. Each train would consist of 100 railcars; each railcar would have a capacity to carry 100 to 120 tons of aggregate. Thus, approximately 20,000 – 24,000 tons of aggregate would be shipped from the quarry to the UP rail line per day, 250 days per year for the reasonably foreseeable future.

SGR also states that if the proposed rail line were not built, VCM would use trucks to transport the limestone from the quarry to the UP rail line. This would require the construction of a remote truck-to-rail loading facility near the UP rail line, and that the number of truck trips that would be required to transport the limestone would far exceed the number of train trips. Approximately 1,700 trucks per day (850 loaded and 850 empty) would be needed to transport that same amount of limestone from the quarry to the UP rail line.

## **ES 2.0 The Environmental Review Process for This Proceeding**

Under the National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. 4321 *et seq.*, the Board must consider the environmental impacts of actions requiring Board authorization and complete its environmental review before making a final decision on a proposed action. SEA is the office within the

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<sup>4</sup> SGR's petition, as well as the DEIS, SDEIS, this FEIS, and all written comments submitted are available on the Board's website at [www.stb.dot.gov](http://www.stb.dot.gov). For the DEIS and SDEIS, go to "E-Library," click on "Decisions & Notices," and then conduct a full text search for the material under "FD 34284". The environmental correspondence can be viewed by selecting "Environmental Matters," clicking on "Environmental Correspondence," and then searching the correspondence under "FD 34284".

Board that carries out the Board's responsibilities under NEPA and related environmental laws and regulations, including the Council on Environmental Quality's (CEQ) regulations for implementing NEPA at 40 CFR Part 1500; the Board's environmental regulations at 49 CFR Part 1105; and the Section 106 National Historic Preservation Act of 1966 (NHPA) process.

SEA began the environmental review of SGR's proposal by consulting with appropriate Federal, state, and local agencies, as well as with SGR, and conducting technical surveys and analyses. Due to substantial early public interest in SGR's proposal, SEA conducted an informational Open House in Hondo, Texas, on June 12, 2003, and received over 100 comment letters in response to the Open House, primarily from area residents, who raised concerns regarding potential environmental impacts. Consultations with interested agencies, other government entities, Tribes, and citizens have continued throughout the Environmental Impact Statement (EIS) process.

### **ES 2.1 The Draft Environmental Impact Statement**

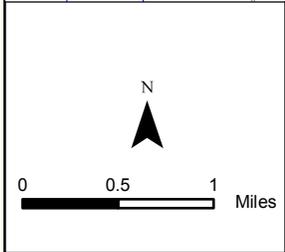
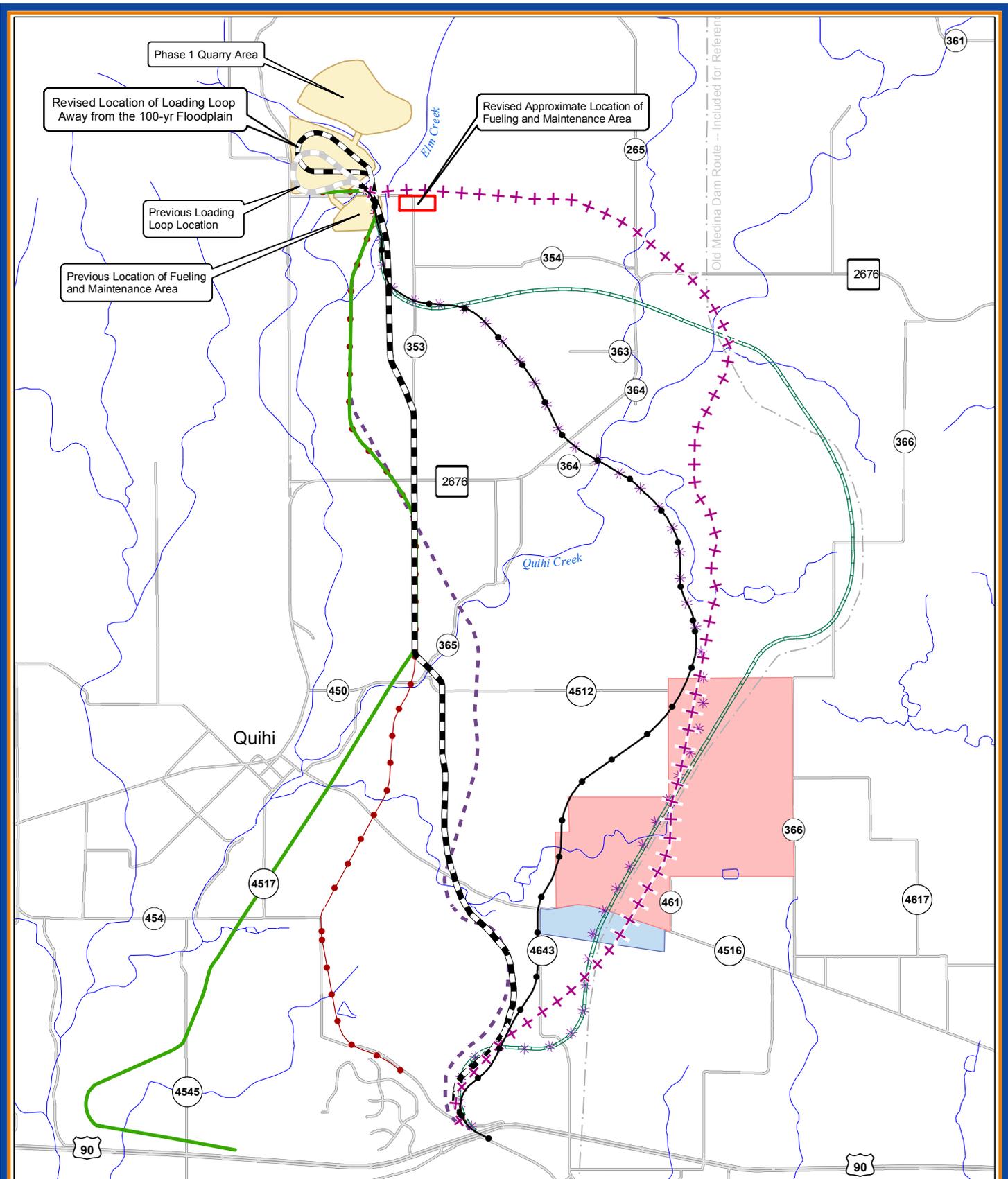
SEA issued the DEIS for public review and comment on November 5, 2004. In the DEIS, SEA evaluated the environmental effects of the proposed rail line construction and operation for the following impact categories: transportation and traffic safety; public health and worker health and safety; water resources; biological resources; air quality; geology and soils (including karst features); land use; environmental justice; noise; vibration; recreation and visual resources; cultural resources; and socioeconomics. SEA also studied the potential cumulative effects and indirect effects that could be caused by the proposed project. The alternatives that SEA studied in depth were four potential rail alignments (the Proposed Route, Alternative 1, Alternative 2, and Alternative 3) and the No-Action Alternative. See Figure ES-1 below.

While some of the DEIS commenters expressed support for SGR's proposed project, the majority were opposed to the project and raised concerns about the DEIS. Comments on the DEIS called into question some of SEA's methodology for assessing particular resource areas, requested modifications to particular mitigation recommendations, and suggested that SEA should recommend additional mitigation measures. Some of the Section 106 consulting parties<sup>5</sup> commented regarding the cultural resources analysis in the DEIS. In particular, the Texas Historical Commission (THC) and the Advisory Council on Historic Preservation (ACHP) raised concerns regarding the need to further identify the boundaries of the potential rural historic landscape in the Quihi area that had been discussed in the DEIS, and to look at additional rail alternatives that could potentially avoid historic properties in the Quihi area.

In order to respond to and better assess all the comments to the DEIS, SEA requested and received additional information from SGR. In particular, SEA requested information regarding how SGR had developed the four potential rail alignments that SEA had studied in depth in the DEIS (the Proposed Route, Alternative 1, Alternative 2, and Alternative 3) and whether SGR had studied the feasibility of rail routes farther to the west or east of those four routes that could potentially bypass the Quihi area.

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<sup>5</sup> The Section 106 consulting parties in this proceeding are: the ACHP; the THC; SGR; the Honorable Ciro Rodriguez of the U.S. House of Representatives; Joe H. and Erna L. Balzen; Comanche Nation of Oklahoma; Richard Fournier; Richard C. Garay; Archie Gerdes; Dr. Thomas Hester; The Michael Churchill Jones Ranch Trust; Kiowa Tribe of Oklahoma; Lester Landrum; Russell Mangold; MCEAA; Medina County Historical Commission; Mescalero Apache Tribe; Quihi and New Fountain Historical Society; Donato Rios, Jr.; Curtis Saathoff; Larry Saiers; Madelyn Schott; Schweers Historical Foundation; Joseph and Vicki Solomon; Lynette Stewart; Tap Pilam Coahuiltecan Nation of Texas; Harold Weiblen; and Wichita and Affiliated Tribes of Oklahoma.



Legend			
	Proposed Route		County Road
	Alternative 1		FM Road
	Alternative 2		US Highway
	Alternative 3		Weiblen Farm
	Eastern Bypass Route (Original)		Castroville West Subdivision
	Modified Eastern Bypass Route		
	SGR's Modified Medina Dam Route		
	MCEAA Medina Dam Alternative		

**Figure ES-1**  
**Southwest Gulf Railroad**  
**Map of all**  
**Routes Studied**

## **ES 2.2 The Supplemental Draft Environmental Impact Statement**

After carefully reviewing the comments received on the DEIS and the additional information submitted by SGR, SEA determined that there were three alternative rail routes: the Eastern Bypass Route, the MCEAA Medina Dam Alternative,<sup>6</sup> and SGR's Modified Medina Dam Route (collectively, the Eastern Alternatives), that were potentially reasonable and feasible, but that had not yet been studied in depth. Thus, SEA decided that these Eastern Alternatives warranted study in a supplemental DEIS. (See Figure ES-1). SEA issued the Notice of Intent to Prepare the SDEIS on March 13, 2006.<sup>7</sup> SEA also determined that a more detailed study of three rural historic landscape districts in the area (the Quihi Rural Historic District, the New Fountain Rural Historic District, and the Upper Quihi Rural Historic District) was warranted. This study was completed and is included in the SDEIS.

## **ES 2.3 The Final Environmental Impact Statement**

SEA received 237 written comments in response to the SDEIS (many came in after the comment period ended on January 29, 2007, but all have been considered). SEA reviewed all comments and prepared this FEIS, which responds to the comments received on the SDEIS, and the comments previously received on the DEIS. The FEIS also contains additional analysis that SEA found necessary, as well as SEA's final recommendations for environmental conditions to mitigate the potential environmental impacts that could be caused by SGR's proposed rail line construction and operation. One of those conditions is a requirement that SGR comply with a Programmatic Agreement (PA)<sup>8</sup> that has been executed by all of the necessary consulting parties to implement Section 106 of the NHPA in the event that one of the environmentally preferable Eastern Alternatives is authorized and built.

The issuance of this FEIS concludes the Board's the environmental review process. The Board will now issue a final decision either to approve, deny, or approve with conditions SGR's petition to construct and operate a rail line in Medina County, Texas. In reaching its decision, the Board will take into consideration the DEIS, SDEIS, FEIS, all environmental comments received, and the mitigation measures that SEA recommends as conditions to construction and operation of the proposal.

In accordance with CEQ regulations implementing NEPA (40 CFR 1506.10(b)), no agency decision on the proposed action may be made until 30 days after the United States Environmental Protection Agency (EPA), publishes its Notice of Availability of this FEIS. Congress has not established a statutory time frame within which the Board must issue its final decision, and the Board has not announced a date for issuance of the final decision. However, in the interest of bringing this matter to closure, the Board will act as promptly as possible. No project-related construction may begin until the Board's final decision has been issued and has become effective.

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<sup>6</sup> MCEAA is the acronym for the Medina County Environmental Action Association, the citizen's group that proposed the MCEAA Medina Dam Alternative.

<sup>7</sup> SEA used the same scope of analysis in the SDEIS to study the Eastern Alternatives that it had applied to the alternatives evaluated in the DEIS. The analysis covers the following resource areas: transportation and traffic safety; public health and worker health and safety; water resources; biological resources; air quality; geology and soils (including karst features); land use; environmental justice; noise; vibration; recreation and visual resources; cultural resources; and socioeconomics.

<sup>8</sup> A PA details a process for the identification and treatment of cultural resources, including archeological, architectural, historic, and cultural properties. It ensures that impacts to cultural and historic resources will be minimized to the extent possible.

### ES 3.0 All Studied Alternatives

The primary purpose of SGR's proposed rail line construction and operation is to transport limestone from VCM's proposed quarry to the UP rail line for shipment to markets in eastern Texas. Thus, all reasonable and feasible alternatives for SGR's proposal must satisfy this purpose.

In the DEIS, SEA determined that the four rail routes studied (the Proposed Route, Alternative 1, Alternative 2, and Alternative 3) (see Figure ES-1) would all traverse the historically sensitive Quihi area and identified other potential environmental concerns. Based on the concerns that had been raised, SEA conducted a more detailed study of the rural historic landscape after requesting additional information from SGR about routes to the east and west that might minimize or avoid potential impacts to the Quihi area. SEA issued an SDEIS that studied three additional rail routes (the Eastern Alternatives: the Eastern Bypass Route, the MCEAA Medina Dam Alternative, and SGR's Modified Medina Dam Route) and compared them to the four rail routes assessed in depth in the DEIS. The SDEIS explained that the Eastern Alternatives would all traverse the Upper Quihi Rural Historic District, but would not pass through the Quihi Rural Historic District.<sup>9</sup> Although the Eastern Alternatives would result in greater environmental impacts in some environmental resource areas, SEA determined that the majority of these impacts would be minimal or substantially reduced with SEA's recommended mitigation. At the same time, SEA concluded that the three historic districts, particularly the Quihi Rural Historic District, are a significant resource in the project area. Thus, the fact that the Eastern Alternatives would cause fewer impacts to cultural resources and would not traverse the boundaries of the Quihi Rural Historic District led SEA to conclude that the Eastern Alternatives would be environmentally preferable to the Proposed Route, Alternative 1, Alternative 2, and Alternative 3.<sup>10</sup> Specifically the SDEIS recommended that, should the Board approve this project, the Eastern Bypass Route, (including the Modified Eastern Bypass Route) and the MCEAA Medina Dam Alternative should all be authorized as environmentally preferable. SGR's modified Medina Dam Route should be rejected because it is the least environmentally preferable of the Eastern Alternatives.

Following issuance of the SDEIS, on January 16, 2007, SGR presented SEA with proposed mitigation for the Proposed Route that it believed would make it an additional environmentally preferable option that should be considered by the Board. SEA conducted two meetings with all interested parties on March 26, 2007 and April 20, 2007 to further discuss SGR's proposed mitigation measures. Based on discussions from the two meetings, on April 27, 2007, ACHP wrote a letter to SEA asking for further clarification of the significance of historic properties in the project area to better guide the ongoing discussions with SGR and the Section 106 consulting parties regarding the Proposed Route. Specifically, ACHP recommended that SEA request a formal determination of eligibility (DOE) from the Keeper of the National Register (Keeper).<sup>11</sup> SEA followed up on ACHP's recommendation with a letter to the Keeper requesting a formal DOE.

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<sup>9</sup> SEA determined that the New Fountain Rural Historic District would not be directly impacted by any of the routing alternatives.

<sup>10</sup> Of all of the rail alternatives studied, SEA determined that Alternative 1 has the potential to cause the greatest environmental and cultural resource impacts, and was thus deemed the least environmentally preferable rail route alternative. Aside from the potential impacts to cultural resources (specifically, the Quihi Rural Historic District), SEA believes that the potential impacts from the construction and operation of the rail line under each of the alternatives studied would generally be similar.

<sup>11</sup> The National Register was established under Section 101 of the NHPA to serve as the Nation's formal list of significant cultural resources. Only properties listed in or eligible for listing in the National Register are given consideration under Section 106 of NHPA.

On July 24, 2007, the Keeper responded in writing to SEA's request stating that it needed additional information before it could provide SEA with a final DOE. Concerned about the possibility of further delay and the need to move forward, on August 3, 2007, SGR submitted a letter to SEA stating that it no longer favored the Proposed Route as its preferred alternative, opting instead to support the Eastern Bypass Route.

Following receipt of SGR's letter, on August 9, 2007, SEA participated in a conference call with the ACHP and the THC to discuss appropriate next steps needed to complete the Section 106 process. It was agreed that SGR's letter constituted a substantial change to the circumstances presented when SEA initially wrote to the Keeper. Furthermore, SEA determined that SGR's rejection of the Proposed Route through the Quihi and Upper Quihi Rural Historic Districts in favor of a route to the east of the area rendered moot the DOE request to the Keeper, thereby allowing the Section 106 review process to move forward.

On August 17, 2007, SEA provided written notice to the Keeper stating that it no longer required a DOE because SGR no longer supported any of the original construction alternatives that would have the most impacts to both the Quihi and Upper Quihi Rural Historic Districts (Alternative 1, Alternative 2, Alternative 3, and the Proposed Route). Subsequently, a PA was signed by all the necessary parties focusing on the process for historic review of the Eastern Alternative Routes. However, if another route is authorized by the Board, the PA stipulates that the 106 Process would be reinstated and a new PA would need to be issued. Further, as discussed below, this FEIS also includes an analysis of the Modified Eastern Bypass Route which was developed to address concerns raised by the Weiblen Farm and Castroville West Subdivision.

### **ES 3.1 Non-Rail and No-Action Alternatives**

According to SGR, VCM originally considered two non-rail alternative means of transporting quarried materials to the UP line: the use of a conveyor system and trucks. VCM rejected the conveyor system option because of the cost of building and maintaining more than seven miles of belts and idlers.

SGR states that, if the proposed rail line were not built, VCM would use trucks to transport limestone from the quarry to the UP line. Therefore, the No-Action Alternative involves the use of trucks. Under this No-Action Alternative, approximately 850 loaded trucks per day would be required to transport the limestone, with approximately 1,700 single truck trips per day, assuming an empty backhaul. In the FEIS, SEA has concluded that the No-Action Alternative is less environmentally preferable than construction and operation of the proposed rail line under any of the rail route alternatives due to the environmental impacts that would result from the large amount of truck traffic that would be needed to transport the limestone from the quarry to the UP rail line.

The No-Action Alternative would cause significant adverse impacts on the transportation infrastructure and traffic safety of the project area, and would produce significant emissions of criteria air pollutants. The truck transportation would also likely cause more adverse impacts than any of the rail alternatives to groundwater and surface water from the non-point source pollutants (e.g., oils, greases, and rubber) that would be deposited on area roadways and carried as runoff into the local stream flow network. Construction of a necessary remote truck-to-rail loading facility would displace more biological habitat than would construction of any of the rail route alternatives. Visual impacts from the construction of the facility and truck operations could also be greater than if the proposed rail line were constructed and operated, and the truck operations would cause more adverse noise impacts. The No-Action Alternative would also have a greater impact on the historic districts due to the need for roadway upgrades that would extensively modify the historic road network, and the visual and auditory effects of the high volumes of truck traffic through these historic areas.

### **ES 3.2 Rail Route Alternatives**

Any reasonable and feasible rail alignment would need to meet the purpose and need of this project to connect to the proposed rail-loading track at the quarry site and to the existing UP rail line in a manner that would enable outbound shipments from the quarry to travel east. In the DEIS, SEA conducted an in-depth analysis of four such potential rail alignments: the Proposed Route; Alternative 1, Alternative 2, and Alternative 3 (see map at Figure ES-1). In response to comments questioning whether there might be other reasonable and feasible rail alignments less likely to cause environmental impacts (in particular, outside of the historic Quihi area), and after seeking more information from SGR, and receiving MCEAA's suggestion of the MCEAA Medina Dam Alternative, SEA identified three additional reasonable and feasible Eastern Alternatives to be studied in depth in the SDEIS: the Eastern Bypass Route; the MCEAA Medina Dam Alternative; and SGR's Modified Medina Dam Route (see Figure ES-1).<sup>12</sup>

In response to SEA's Notice of Intent to Prepare the SDEIS, SEA received nine comments suggesting a modification of the Eastern Alternatives. Specifically, several commenters raised concerns that the proposed Eastern Alternatives would pass through their family farm, the Weiblen Farm, in locations that would disrupt irrigation systems and destroy irrigated farmland. The commenters also indicated that their house is located at the intersection of the three Eastern Alternatives and would therefore be adversely impacted by all three routes. They proposed the Weiblen Modification (see SDEIS, Chapter 2) to minimize or avoid the potential impact of the Eastern Alternatives (see map at Figure ES-1). SEA also received comments from landowners in the recently developed Castroville West Subdivision regarding potential impacts from the Eastern Alternatives. The Weiblen Modification would bypass this area as well.

In response, following issuance of the SDEIS and SGR's development of more detailed engineering in the area surrounding the Weiblen farm, SEA developed the Modified Eastern Bypass Route, which would make minor changes to the Eastern Bypass Route to address the concerns raised by the Weiblen family and the other landowners along the Eastern Alternatives who may be in similar situations. This Modified Eastern Bypass Route is discussed in the FEIS. The Modified Eastern Bypass Route would follow the same right-of-way as the Eastern Bypass Route proposed in the SDEIS, but would weave around the Weiblen Farm and Castroville West Subdivision. It would follow property lines to the extent practicable to minimize adverse impacts, and connect to the Proposed Route in the southern end of the alignment before connecting to the UP main line (see map at Figure ES-1). SGR has stated (see #EI-2712 and #EI-3040 in Appendix A-2 of this FEIS) that it no longer seeks approval for the Proposed Route and does not oppose SEA's recommendation in the SDEIS to designate both the Eastern Bypass Route and the MCEAA Medina Dam Alternative as environmentally preferable. Of these two alternatives, SGR favors the Eastern Bypass Route, but does not oppose the Modified Eastern Bypass Route in this FEIS, which SEA also recommends as environmentally preferable.

### **ES 3.3 Weighing the Environmental Impacts of the Rail Route Alternatives**

Of all of the rail line alternatives that SEA studied, SEA concludes that Alternative 1 has the potential to cause the greatest environmental impacts. Alternative 1 would cross the most number of

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<sup>12</sup> Any western bypass route would either be significantly longer than the four routes studied in the DEIS and the Eastern Alternatives studied in the SDEIS, or would pass through more floodplain area and would impact a larger number of historic resources (including historic resources in the New Fountain, Texas area). Therefore, any such route would be less environmentally preferable than the other alternatives, and SEA excluded from further consideration any such route.

streams of higher order,<sup>13</sup> as well as the maximum amount of floodplain. In addition, potential adverse noise impacts from operations over Alternative 1 would be greater than for any of the other rail alternatives and operations over Alternative 1 would cause vibration impacts to two houses in the area. Construction and operation of Alternative 1 would also cause the greatest impact to cultural resources. This route would be located near many known and suspected historic structures; would intersect a large acreage within two historic districts (including the core of original Quihi); and would cross many archaeologically high sensitive terrains. Thus, SEA concludes that Alternative 1 is the least environmentally preferable rail route alternative.

The Proposed Route, Alternative 2, Alternative 3, and the Eastern Alternatives (including the Modified Eastern Bypass Route), each would have certain advantages and disadvantages over the other routes studied. Due to fewer county road crossings and a lower risk of accidents during construction and operation, Alternative 2 would cause the fewest impacts to transportation and traffic safety of any of the rail alternatives. Alternative 3 would have the fewest impacts to wetland resources because it would not cross any aquatic features or stock ponds; Alternative 3, the Modified Eastern Bypass Route, and the Proposed Route would cause the least amount of adverse noise impacts to noise sensitive receptors from rail operations. The Proposed Route would cross the fewest number of private properties that are not owned by SGR or its affiliates.

All of the Eastern Alternatives, and the Modified Eastern Bypass Route, would have the potential to cause fewer impacts to cultural resources and the 100-year floodplain than the Proposed Route, Alternative 2, or Alternative 3. SGR's Modified Medina Dam Route and the MCEAA Medina Dam Alternative would cause the fewest impacts to cultural resources of any of the rail alternatives; the MCEAA Medina Dam Alternative would also be the least intrusive to the historic districts and would cross the least amount of floodplain. The Eastern Bypass Route and the Modified Eastern Bypass Route have the potential to cause somewhat more cultural resource impacts than the other Eastern Alternatives, but would have fewer floodplain crossing points than any of the other alternatives. However, the Eastern Alternatives are all somewhat longer than the Proposed Route, Alternative 2, and Alternative 3, and thus have the potential to cause proportionally greater environmental impacts in the areas of transportation and traffic safety, biological resources, air quality, and land use.<sup>14</sup>

For the reasons explained in detail in the SDEIS and this FEIS, SEA concludes that the majority of potential environmental impacts from the construction and operation of the proposed rail line under any of these Eastern Alternatives would either be minimal or could be substantially reduced through SEA's recommended mitigation. Therefore, SEA does not believe that the increased impacts from the slightly longer lengths of the Eastern Alternatives would be significantly different from the impacts that would be caused by the construction and operation of the Proposed Route, Alternative 2, or Alternative 3.

With the exception of historic preservation, the potential impacts of the routes studied in the DEIS with mitigation are not expected to be significant. However, as discussed in Chapter 4 of this document, SEA finds that the three historic districts, particularly the Quihi Rural Historic District, are a significant resource in the project area, and concludes that all of the Eastern Alternatives would cause fewer impacts to these cultural resources and to the 100-year floodplain than the Proposed Route,

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<sup>13</sup> Stream order is a method of numbering streams as part of a drainage basin network. The smallest unbranched mapped tributary is called first order; the stream receiving the tributary is called second order, and so on. Lower order streams typically have fewer intermittent flows, and wider, more mature riparian zones. Thus, lower order streams are easier to traverse without impact.

<sup>14</sup> The lengths of the Eastern Alternative Routes range from 9.2 to 10.9 miles; and the Proposed Route, Alternative 2, and Alternative 3 range from 7.0 to 9.0 miles.

Alternative 2, or Alternative 3. SGR's Modified Medina Dam Route and the MCEAA Medina Dam Alternative would cause the fewest impacts to cultural resources of any of the rail alternatives, while the MCEAA Medina Dam Alternative would be the least intrusive to the historic districts and would cross the least amount of floodplain. The Eastern Bypass Route (including the Modified Eastern Bypass Route) has the potential to cause more cultural resource impacts than the other two Eastern Alternatives, but would have fewer floodplain crossing points.

As previously noted, SGR has stated in writing (see #EI-2712 and #EI-3040) that it no longer seeks approval for the original preferred alignment through Quihi and does not oppose SEA's recommendation in the SDEIS to designate both the Eastern Bypass Route and the MCEAA Medina Dam Alternative as environmentally preferable routes. Of these two alternatives, SGR favors the Eastern Bypass Route. Subsequently, SGR has advised SEA that it does not oppose the Weiblen Modification to the Eastern Bypass Route (designated as the Modified Eastern Bypass Route in this FEIS), which SEA also recommends as environmentally preferable.

### **ES 3.4 The Environmentally Preferred Alternative(s)**

Because all of the Eastern Alternatives would avoid traversing the Quihi Rural Historic District, SEA has compared the Eastern Alternatives in terms of their potential impacts on resources to determine whether one or more of the Eastern Alternatives should be designated as the most environmentally preferable alternative(s).

As explained in more detail in the SDEIS and this FEIS, SGR's Modified Medina Dam Route would cause more impacts to transportation and traffic safety than the Eastern Bypass Route, the Modified Eastern Bypass Route, or the MCEAA Medina Dam Alternative, would require more higher order stream crossings, and is the longest of the Eastern Alternatives (which would cause slightly more environmental impacts in certain resource areas, as discussed above). Thus, in this FEIS, SEA confirms the conclusion made in the SDEIS that SGR's Modified Medina Dam Route is the least environmentally preferable of the Eastern Alternatives. SEA does not recommend that route should the Board decide to authorize this project.

The Eastern Bypass Route and the Modified Eastern Bypass Route would have fewer floodplain crossing points than the MCEAA Medina Dam Alternative, would cross fewer aquatic features, have fewer total stream crossings, and would be slightly shorter in length. The Modified Eastern Bypass Route and the MCEAA Medina Dam Alternative would have slightly fewer impacts to transportation and traffic safety than the Eastern Bypass Route. On the other hand, the MCEAA Medina Dam Alternative would cross a smaller amount of floodplain; would impact prime farmland soils to a lesser degree; would be less likely to be affected by the development of karst features; would have less overall impacts to existing land uses; and would have slightly fewer impacts on cultural resources than the Modified Eastern Bypass Route and the Eastern Bypass Route.

SEA concludes that, based on all available information, the distinctions between these latter three routes are not significant. SEA thus designates the Eastern Bypass Route (including the Modified Eastern Bypass Route) and the MCEAA Medina Dam Alternative as the Environmentally Preferable Alternatives out of all of the alternatives studied in the environmental review process for this proceeding, and recommends that all be authorized by the Board, subject to SEA's final recommended mitigation assuming that the Board approves this project.

#### **ES 4.0 Mitigation Measures**

In the DEIS, SEA recommended 52 environmental mitigation measures. Five of these mitigation measures were voluntary mitigation measures offered by SGR,<sup>15</sup> and the other mitigation measures were developed by SEA as part of its environmental analysis and its consultation with Federal, state, and local agencies and the public. In response to the DEIS, commenters suggested that SEA modify several of the mitigation measures and requested new or additional mitigation measures. SEA recommended a number of additional mitigation measures in the SDEIS. The FEIS includes 91 final recommended mitigation measures (including 10 voluntary measures). SEA's final recommended mitigation addresses: transportation and traffic safety, public health and safety, hazardous materials and waste sites, worker health and safety, groundwater (including the Edwards Aquifer), surface water, wetlands, biological resources, air quality, land use, noise, vibration, recreational and visual resources, cultural resources (including compliance with the PA), karst features, and monitoring and enforcement.

A complete list of the recommended mitigation measures appears at the end of this Executive Summary and in Chapter 1 of this FEIS. If the Board issues a decision authorizing SGR to construct and operate its rail line, SGR would be legally obligated to comply with all of the mitigation measures imposed by the Board in its decision.

#### **ES 5.0 Historic Preservation and the Programmatic Agreement**

SEA has developed a PA in consultation with SGR, the THC and ACHP, pursuant to Section 106 of NHPA and the ACHP regulations at 36 CFR 800.14(b), which has been signed by all the necessary parties and is included in this FEIS.<sup>16</sup> The scope of the PA is focused on the two environmentally preferable Eastern Alternatives (including the Modified Eastern Bypass Route). The PA details a process for the identification and treatment of cultural resources, including archeological, architectural, historic, and cultural properties, if construction and operation of one or more of the Eastern Alternatives is authorized.<sup>17</sup> Before it was finalized, the PA was circulated to all of the Section 106 necessary consulting parties and was made available for public review and comment through the issuance of a notice in the *Federal Register* on October 18, 2007.

#### **ES 6.0 Distribution and Availability of this FEIS**

SEA has mailed this FEIS to key reviewing agencies and all those individuals who commented on the DEIS and SDEIS. Additionally, SEA has distributed the FEIS to parties of record, the environmental distribution list, and other interested agencies and entities, Tribes and citizens. In accordance with CEQ regulations, SEA has submitted this FEIS to EPA for EPA's issuance of a formal Notice of Availability. SEA also has placed a copy of the FEIS at the following locations:

- The Hondo Public Library (1011 19<sup>th</sup> Street) in Hondo, Texas;
- The Castroville Public Library (802 Lundun Street) in Castroville, Texas, and;
- The San Antonio Central Library (600 Soledad) in San Antonio, Texas.

Furthermore, the entire document can be found on the Board's website at [www.stb.dot.gov](http://www.stb.dot.gov) under "Decisions & Notices."

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<sup>15</sup> SEA encourages railroads to propose voluntary mitigation, which can be more far reaching than the mitigation the Board unilaterally could impose.

<sup>16</sup> Compliance with the PA would be required under mitigation measure #F-77.

<sup>17</sup> The PA provides that, should the Board approve an alignment other than the three Eastern Alternatives, SEA would reinitiate the Section 106 process to ensure that potential impacts to historic resources on the route actually approved are mitigated.

## ES 7.0 SEA's Final Recommended Mitigation

Below, SEA lists the final 91 recommended mitigation measures. Ten of these are voluntary mitigation measures and 81 are mitigation measures that SEA has developed through its environmental analysis and consultation with Federal, state, and local agencies, and the public. For each of the mitigation measures, SEA indicates whether the condition was originally recommended in the DEIS, originally recommended in the SDEIS, or originally recommended in this FEIS. SEA also notes whether the conditions originally recommended in the DEIS and SDEIS have been modified here. To distinguish the final recommended conditions from those recommended in the DEIS and SDEIS, SEA has included the letter "F" before the number of each condition.

### Voluntary Mitigation

- F-VM1. As agreed to by SGR, SGR shall conduct all maintenance and fueling activities at a designated area off the Edwards Aquifer Recharge Zone (EARZ) and SGR shall ensure that the fueling and maintenance activities occur at a facility with secondary containment to meet the requirements of an approved Texas Commission on Environmental Quality (TCEQ) Water Pollution Abatement Plan (WPAP) and a Spill Prevention, Containment, and Countermeasures Plan (SPCC). *Originally recommended in the DEIS as VM1.*
- F-VM2. As agreed to by SGR, SGR shall conduct appropriate hydrological modeling prior to beginning construction and shall incorporate the resulting design criteria into the design of the rail line to avoid or minimize adverse impacts to existing floodplain conditions. As part of this modeling, SGR shall:
- (a) Compile information regarding existing land use, topography, drainage features, impervious surfaces, and other information needed for the modeling effort.
  - (b) Conduct additional surveying, as required, to obtain data related to existing channel geometry.
  - (c) Coordinate with the Medina County Floodplain Administrator and the U.S. Army Corps of Engineers (Corps) to discuss the project and address reasonable mitigation requirements.
  - (d) Delineate the overall watershed and sub-watersheds, and related drainage patterns corresponding to relevant points of interest.
  - (e) Compile an existing-conditions hydrologic model, based on existing watershed characteristics and regional design storm information to determine the 2, 5, 10, 25, 50, 100, and 500-year design storm intensities and related stream or flood-flow rates for these recurrence intervals.
  - (f) Develop existing-conditions hydraulic models of appropriate points of interest, such as stream crossings, so that the existing conditions-hydraulic model can be compared to the existing floodplain data.
  - (g) Analyze the proposed bridges and other proposed structures on the rail line that may impact the floodplain and the watershed, producing a technical report addressing the estimated extent of the existing floodplains in the project vicinity and providing appropriate design criteria for minimum bridge openings, culvert locations and sizes, bridge lengths and low chord heights, bank stabilization, scour protection, and erosion control measures.
  - (h) Design a WPAP and a Stormwater Pollution Prevention Plan (STPPP), and provide a narrative description of plans to mitigate water quality impacts during and after construction of the rail line.
- Originally recommended in the DEIS as VM2.*

- F-VM3. As agreed to by SGR, SGR shall use continuously welded rail for construction of the rail line other than the loading area. *Originally recommended in the DEIS as VM3; modified based on comments in the FEIS.*
- F-VM4. As agreed to by SGR, SGR shall maintain native grass and shrubs inside the rail line right-of-way to allow the rail line to blend with the natural surroundings. *Originally recommended in the DEIS as VM4.*
- F-VM5. As agreed to by SGR, SGR shall control weeds and vegetation along its right-of-way, consistent with rail industry standards and the need to minimize fire hazards. *Originally recommended in the DEIS as VM5.*
- F-VM6. As agreed to by SGR, SGR shall maintain the right-of-way consistent with the Manual for Railway Engineering issued by the American Railway Engineering and Maintenance of Way Association (AREMA). *Added in the FEIS.*
- F-VM7. As agreed to by SGR, SGR shall 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. *Added in the FEIS.*
- F-VM8. As agreed to by SGR, SGR shall develop emergency evacuation plans following the completion of final engineering prior to beginning construction. SGR's operational plans shall require the routine monitoring of weather reports and conditions, and SGR shall temporarily cease operations along the line when warranted by weather conditions, including flooding. Rail operations shall not resume until any flooding has ceased and an inspection is made of the rail line to ensure that it is safe to resume operations. SGR shall not park trains along the rail line in areas that would block emergency evacuation routes. *Added in the FEIS.*
- F-VM9. As agreed to by SGR, SGR shall prepare and implement a SPCC in compliance with the EPA regulations at 40 CFR Part 112, and provide the map requested by EPA in its comments to the DEIS. SGR's operational plans shall incorporate appropriate measures to protect groundwater from contamination. *Added in the FEIS.*
- F-VM10. As agreed to by SGR, SGR shall utilize above-ground fuel and oil storage tanks, and locate them in concrete containments of adequate height, volume, and thickness to prevent leakage into the ground should the integrity of the tanks be breached. SGR's SPCC shall include fencing and/or other security measures for the containment area, and require tanks to have fill gauges to prevent overfilling. SGR shall also adopt procedures to clean up incidental spills. *Added in the FEIS.*

### **SEA's Recommended Mitigation**

#### **Transportation and Traffic Safety**

- F-1. SGR shall conduct track safety inspections and maintenance in accordance with the Federal Railroad Administration (FRA) standards set forth at 49 CFR Part 213 to detect potential problems and minimize derailment potential. *Originally recommended in the DEIS as Mitigation Measure #1.*
- F-2. SGR shall consult with the owner of the pipeline that would be crossed prior to beginning rail line construction and shall make appropriate modifications to the design of the rail line necessary to ensure that the rail line will not affect the integrity of the pipeline.

*Originally recommended in the DEIS Mitigation Measure #2; modified in the FEIS to take into consideration the changes in ownership of the pipeline.*

- F-3. SGR shall consult with the Texas Department of Transportation (TxDOT) prior to beginning rail line construction regarding the rail line crossing of Farm-to-Market Road (FM) 2676 and shall adhere to TxDOT's reasonable recommendations regarding the design of this crossing. *Originally recommended in the DEIS as Mitigation Measure #3.*
- F-4. SGR shall consult with Medina County prior to beginning rail line construction regarding the rail line crossing of county roads and shall adhere to Medina County's reasonable recommendations regarding the design of these crossings. *Added in the FEIS.*
- F-5. Prior to beginning rail construction activities, SGR shall consult with the TxDOT and Medina County regarding how to minimize vehicular traffic delay during rail line construction across roadways, and shall adhere to their reasonable requirements. *Originally recommended in the DEIS as Mitigation Measure #4; modified in the FEIS.*
- F-6. SGR shall develop internal emergency response plans for use during rail line construction and operation to ensure that appropriate agencies and individuals are notified in case of an emergency. SGR shall provide the emergency response plan to appropriate state and local entities prior to any rail construction activities. *Originally recommended in the DEIS as Mitigation Measure #5.*
- F-7. SGR shall consult with local fire, police, and Emergency Medical Services (EMS) officials prior to beginning construction activities in order to develop a plan to minimize impacts to area emergency response capabilities during construction and operation of the rail line. *Added in the FEIS.*
- F-8. Prior to beginning construction activities, SGR shall consult with TxDOT and Medina County to develop a plan that specifies the responsibility of each party concerning the maintenance and repair of grade-crossing warning devices and the grade crossings along the new rail line, consistent with recognized highway safety standards, taking into account the level of highway traffic at the crossing. *Originally recommended in the DEIS as Mitigation Measures #6 and #8; modified in the FEIS.*
- F-9. SGR shall take into account maintenance of emergency response capabilities and school bus schedules in planning and executing the necessary roadwork for construction and maintenance activities on the rail line. SGR shall station equipment so as to minimize the need for any total road closures and to allow the disturbed areas to be quickly restored for passage by emergency vehicles. *Originally recommended in the DEIS as Mitigation Measure #7.*
- F-10. SGR shall consult with local school officials in Medina County prior to construction, to take school bus schedules into consideration in its plans and to minimize rail operations when school buses are on area roadways. *Originally recommended in the DEIS as Mitigation Measure #9.*
- F-11. SGR shall be responsible for the cost of all permits, detours, coordination with local officials and agencies, and public notifications related to temporary lane restrictions or road closures necessitated by rail construction activities. *Originally recommended in the DEIS as Mitigation Measure #10.*

- F-12. SGR shall maintain the vegetation along and within the railroad right-of-way to provide a clear line of sight for train operators and vehicle drivers at all at-grade crossings (including public roadways, private roadways, and driveways). *Added in the FEIS.*
- F-13. Prior to beginning any rail construction activities, SGR shall perform an engineering evaluation at each private roadway and driveway crossing, and shall consult and negotiate with the respective landowners to implement appropriate changes to roadway geometry and to install and maintain appropriate warning signs and/or signals. *Added in the FEIS.*
- F-14. Prior to beginning rail construction activities, SGR shall consult with UP to ensure that the design of the connection and rail interchange area with the UP line is safe. During construction, maintenance, and rail operations, SGR shall coordinate with UP regarding all activities in the vicinity of the UP line and shall comply with all applicable safety laws. *Added in the FEIS.*
- F-15. SGR shall notify local authorities immediately in the event that a train malfunction causes a roadway to become blocked; shall clear the blocked roadway crossing as soon as possible; and shall work with local authorities to set up warning signs and detour routes for area vehicles so that drivers are made aware of the situation and would not be cut off while a crossing is blocked. *Added in the FEIS.*

**Public Health and Safety**

- F-16. SGR shall take appropriate measures to prohibit public access to the construction site during rail line construction activities. *Originally recommended in the DEIS as Mitigation Measure #11.*
- F-17. As recommended by the EPA, SGR shall conduct construction and waste disposal activities in accordance with applicable local, state, and Federal statutes and regulations. *Added in the FEIS.*

**Hazardous Materials/Waste Site and Existing Energy Resources**

- F-18. Prior to initiating rail construction activities, SGR shall survey the location of the transmission line poles and avoid them during the construction of the rail line right-of-way. *Originally recommended in the SDEIS as Mitigation Measure #1A.*
- F-19. SGR shall consult with utility companies serving the area prior to beginning rail construction and shall develop a plan to provide area residents with advance notice prior to any necessary disruption of utility services during construction. In the event of any unscheduled disruption of utility services during construction and operation of the rail line, SGR shall contact the appropriate utility companies as soon as it becomes aware of the situation and shall work with the utility companies to restore service to area residents as soon as possible. *Added in the FEIS.*

**Worker Health and Safety**

- F-20. SGR shall comply with appropriate Occupational Safety and Health Administration standards (OSHA) General Industry Standards (GIS) at 29 CFR Part 1926 and OSHA Construction Industry Standards at 29 CFR Part 1926 during rail line construction and operation activities. *Originally recommended in the DEIS as Mitigation Measure #12.*

## **Groundwater**

- F-21. SGR shall develop a STPPP prior to initiating rail line construction activities and implement the measures in the plan during construction and maintenance activities. *Originally recommended in the DEIS as Mitigation Measure #13.*
- F-22. SGR shall use Best Management Practices (BMPs), during rail line construction and maintenance activities to minimize impacts of sediment runoff. *Originally recommended in the DEIS as Mitigation Measure #14.*
- F-23. SGR shall require construction contractors and maintenance crews to maintain their equipment in good operating condition and to operate the equipment safely. *Originally recommended in the DEIS as Mitigation Measure #15.*
- F-24. Prior to beginning rail construction, SGR shall develop a SPCC specifically for stream crossings and for portions of the route constructed over the EARZ. The SPCC shall include planning for flood conditions. *Originally recommended in the DEIS as Mitigation Measure #16.*
- F-25. SGR shall include, at a minimum, the following provisions in the SPCC: definition of what constitutes a spill; requirements and procedures for reporting spills to appropriate government agencies; methods of containing, recovering, and cleaning up spilled material; equipment available to respond to spills and where the equipment is located; and a list of government agencies and SGR's management personnel to be consulted with in the event of a spill. *Added in the FEIS.*
- F-26. During both rail construction and operation, SGR shall monitor the stream beds, land, and water quality in the vicinity of the rail line for indications of diesel or gasoline releases; shall take appropriate action to prevent diesel or gasoline releases; and shall remediate any soils contaminated by any diesel or gasoline release for which SGR is responsible as soon as practicable. *Originally recommended in the DEIS as Mitigation Measure #18; modified in the FEIS.*
- F-27. Prior to initiating any rail line construction activities, SGR shall develop a contingency plan to protect the health and safety of well owners, should any contamination to wells occur as a result of rail line construction and operation. *Originally recommended in the DEIS as Mitigation Measure #19.*
- F-28. SGR shall ensure that all wells within the rail line right-of-way are properly abandoned prior to beginning rail construction activities. *Added in the FEIS.*
- F-29. SGR shall comply with the Edwards Aquifer rules as presented in Title 30 Texas Administrative Code (TAC) Chapter 213 for all construction activities for the rail line and associated fuel supply facility that occur within the EARZ. *Added in the FEIS.*
- F-30. SGR shall conduct a recharge zone delineation study by a qualified hydrogeologist, under the supervision and oversight of the Edwards Aquifer Authority (EAA), to determine the exact boundaries of the recharge zone, in order to locate the fueling and maintenance area completely off the recharge zone. *Added in the FEIS.*
- F-31. SGR shall select and monitor appropriate points along Quihi Creek and/or along Cherry Creek that would capture any pollution that may flow downstream from the Quihi,

Polecat, Elm Creek, and Cherry Creek watersheds as a result of this project. The monitoring shall include, at a minimum, analyses for oil and grease, total petroleum hydrocarbons, and total suspended solids. *Added in the FEIS.*

- F-32. SGR shall use "CONVAULT-type" Above Ground Storage Tanks (ASTs) at its fueling and maintenance facility. These ASTs are above-ground, concrete, full-storage tanks that have dual wall construction to provide maximum protection in the event of a leak. These ASTs are also equipped with sensors that will "alarm" if leakage is detected and that have instruments to show fuel level and multiple safety devices to prevent overfilling and rupture, and superior flame-arrested venting ports. These ASTs shall also be located within a third concrete-walled container that holds 1-1/2 times the volume of the AST maximum volume to provide extra protection to contain a fuel leak in the unlikely event of multiple containment failures. All ASTs shall be located off of the EARZ and on areas where fuels from an unlikely catastrophic release would flow away from the EARZ (generally areas south of the Balcones Escarpment on outcrops of Del Rio Clay, as determined by a geologist). SGR's fueling and maintenance facility shall also have an established SPCC in place in addition to any STPPP appropriate to the location. *Added in the FEIS.*
- F-33. SGR shall locate its fueling and maintenance facility on a site to the south of the EARZ over the upper confining units of the Edwards Aquifer within the general location depicted in Figure 5-2 of this FEIS, and shall implement permanent BMPs to prevent and/or abate the release of potential pollutants or sediment from the site. In addition, SGR shall establish a STPPP appropriate to the site to address potential stormwater runoff concerns. *Added in the FEIS.*
- F-34. Prior to construction, SGR shall conduct a comprehensive karst feature inventory (including springs, seeps, and sink holes) and evaluation in compliance with 30 TAC Chapter 213, administered by the TCEQ for the area of the selected rail line alignment. *Added in the FEIS.*

#### **Surface Water**

- F-35. SGR shall use BMPs during rail line construction, operation, and maintenance activities to minimize soil erosion and to reduce the potential for oil and fuel spills. *Originally recommended in the DEIS as Mitigation Measure #20.*
- F-36. SGR shall use Best Engineering Practices in the design of rail line stream crossings to avoid increasing the floodplain width. *Originally recommended in the DEIS as Mitigation Measure #21.*
- F-37. Prior to initiating any rail line construction activities, SGR shall design and implement site-specific "scour and instability countermeasures" to minimize local and downstream instability from stream crossings. *Originally recommended in the DEIS as Mitigation Measure #22.*
- F-38. Prior to initiating any rail line construction activities, SGR shall conduct a floodplain study, as described in Voluntary Mitigation Measure # F-VM2, in consultation with the Medina County Floodplain Administrator. SGR shall comply with the reasonable requirements of the Medina County Floodplain Administrator, as delegated to the Medina County Floodplain Administrator pursuant to the regulations of the Federal Emergency Management Agency at 44 CFR 60.3. These requirements will include, but not be

limited to, ensuring that SGR's construction plans will not cause more than a 12-inch rise in the current 100-year floodplain elevation, consistent with the Medina County Floodplain Administrator's permitting standards, as set forth during the environmental consultation process for this project. *Originally recommended in the DEIS as Mitigation Measures #23 and #24; modified in the FEIS.*

- F-39. SGR shall obtain all required Corps permits for stream crossings prior to initiating any rail line construction activities. *Originally recommended in the DEIS as Mitigation Measure #25.*
- F-40. SGR Company shall use environmentally-friendly solvents and/or absorbent pads to minimize ground contact by the materials used to clean the engine and to clean excess oil from lubricated parts of the train. *Originally recommended in the DEIS as Mitigation Measure #26; modified in the FEIS.*
- F-41. SGR shall repair and resurface its railroad tracks using manual resurfacing and switch-cleaning methods. *Originally recommended in the DEIS as Mitigation Measure #27.*
- F-42. SGR shall use manual vegetation cutting methods (rather than chemicals or herbicides) for weed control and other right-of-way clearing activities. *Originally recommended in the DEIS as Mitigation Measure #28.*
- F-43. SGR shall incorporate specific BMPs into the SPCC to address the possibility of sediment runoff or diesel spills flowing into privately owned stock watering ponds. *Originally recommended in the DEIS as Mitigation Measure #29.*
- F-44. In response to the request of the USEPA, SGR shall:
- (a) Use span bridges where possible to minimize impacts to streams, including all perennial streams;
  - (b) Take precautions to avoid channel degrading from head-cutting (such as ensuring that grades at the culverts and bridges remain at their existing elevation);
  - (c) If a series of box culverts is installed to carry high flows, make one culvert lower than the others to handle frequent flows (i.e., "bankfull" or less) and the other culverts at higher elevations for less frequent events;
  - (d) Plan the route and design of the rail line crossings to avoid the need to cut off meanders and channelize stream reaches;
  - (e) Minimize impacts to the riparian corridor, especially by forested areas for example, not clearing entire right-of-way through the riparian area or floodplain, and only clearing what is needed for construction and access;
  - (f) Minimize impacts to the creek banks (soil and vegetation) and stabilize and replant disturbed banks with native vegetation as soon as construction in the creek bank is completed.
  - (g) Minimize erosion of banks and bare soil, and reduce siltation of streams; stabilize and revegetate bare soil as soon as possible; inspect and repair hay bales and silt fences as needed after each rainfall that creates runoff; install multiple rows of silt fences as necessary, parallel to contours on long and steep slopes; and
  - (h) Avoid using wetlands or forested floodplains for staging areas or for borrow areas. *Added in the FEIS.*

- F-45. SGR's plans for maintaining drainage structures associated with the rail line shall provide for regular maintenance (i.e., removal of debris, rock, and sediment) of ditches and crossings. *Added in the FEIS.*
- F-46. SGR shall consult with appropriate Medina County officials prior to beginning rail construction to identify the location of emergency evacuation routes in the project area. When flood conditions prevail in the area, SGR shall ensure that train operations do not obstruct identified emergency evacuation routes, even if this may require SGR to cease rail operations during periods of flooding. *Added in the FEIS.*

#### **Wetlands**

- F-47. Prior to initiating rail construction activities, SGR shall survey the location of privately owned stock ponds and irrigation systems within the project area. If avoidance is not possible, SGR shall minimize intrusion to these water bodies and to important sources to these water bodies to the extent practicable, and shall consult with the Corps to determine if a full wetland delineation study is required. In addition, SGR shall negotiate with affected landowners regarding the appropriate replacement of these stock ponds/irrigation systems. *Originally recommended in the SDEIS as Mitigation Measure #2A, a modification and replacement to Mitigation Measures #31 and #44 in the DEIS.*
- F-48. Prior to initiating rail line construction activities, SGR shall develop a plan to prevent erosion and sediment runoff from disturbed areas and shall implement the measures in its plan during the rail construction activities. Any hay used for erosion control shall be certified weed free. Slopes for graded embankments shall be established based upon standard engineering practices, environmental considerations, and consultation with Texas Parks and Wildlife Department (TPWD). Runoff control measures shall be maintained until native vegetation has been established in all disturbed areas. *Originally recommended in the DEIS as Mitigation Measure #32; modified in the FEIS.*
- F-49. Prior to the completion of final engineering plans, SGR shall conduct surveys of stream channels and associated wetlands along the railroad right-of-way. These surveys shall include photographs of the sites, general descriptions of the dominant vegetation species and percent cover, and the elevations of the sites. SGR shall submit a written report of the surveys to TPWD and the Medina County Floodplain Administrator, as well as to SEA. SGR shall then consult with TPWD and the Medina County Floodplain Administrator and shall incorporate into its final engineering plans methods of restoring each site to the pre-project elevations, contours, and hydrologic conditions or other conditions that may more appropriately take into consideration the engineering needs of the rail line and post-construction hydrology. *Added in the FEIS.*

#### **Biological Resources**

- F-50. Prior to finalizing construction plans and before beginning rail construction activities, SGR shall review specific aspects of its construction plans, including temporary construction features, and shall instruct the preparers of the plans to fully review areas to be affected such that losses of stands of woody vegetation and other forms of natural buffers, including areas along waterways, will be held to a minimum. During rail construction, SGR shall minimize disturbance of natural buffers contiguous to floodplains in order to prevent soil erosion and to preserve wildlife cover, food sources, and travel corridors. *Originally recommended in the DEIS as Mitigation Measure #33; modified in the FEIS.*

- F-51. During rail construction, SGR shall replace mature trees at a 3:1 ratio and shall monitor these replacement trees to ensure a survival rate of 80 percent. If the removal of old timber trees is unavoidable, SGR shall replace old timber trees at a ratio of 10 trees for each one lost and shall monitor these replacement trees to ensure a survival rate of 80 percent. *Originally recommended in the DEIS as Mitigation Measure #34.*
- F-52. To protect migratory birds in the area, if rail construction activities take place during the March-August migratory bird nesting season, SGR shall consult with the TPWD to develop and implement measures to avoid impacts on nesting birds prior to initiating construction activities. *Originally recommended in the DEIS as Mitigation Measure #35.*
- F-53. During rail construction, SGR shall promptly reseed the native grasses on the portion of the right-of-way that does not consist of the roadbed (tracks and ballast) or the 10-foot access area on either side of the roadbed. *Originally recommended in the DEIS as Mitigation Measure #36.*
- F-54. SGR shall consult with the U.S. Fish and Wildlife Service (USFWS) and the EAA during final engineering of the rail line and prior to beginning construction to ensure that the material used for the track, ties, and ballast does not pose hazards to the water quality of the Edwards Aquifer or species dependent upon the aquifer (e.g., use of ties not preserved with creosote). *Originally recommended in the SDEIS as Mitigation Measure #3A.*
- F-55. SGR shall use only Vulcan Materials Company's (Vulcan's) existing Edwards Aquifer water rights or any other existing Edwards Aquifer water rights that may be acquired when using water from the Edwards Aquifer during construction, maintenance, and operation of the rail line. *Originally recommended in the SDEIS as Mitigation Measure #4A.*
- F-56. SGR shall consult with the TPWD and affected landowners prior to beginning rail construction activities regarding appropriate measures to protect livestock and wildlife in the area during rail construction and operation activities. Appropriate measures could include the use of specific types of fencing or barriers. *Added in the FEIS.*
- F-57. During rail construction and operation, SGR shall maintain native grass and shrubs within the right-of-way and mow only essential use areas. *Added in the FEIS.*

#### **Air Quality**

- F-58. SGR shall comply with all applicable Clean Air Act requirements for burning debris generated by construction of the rail line. *Originally recommended in the DEIS as Mitigation Measure #37.*
- F-59. During rail line construction, SGR shall take appropriate measures to control fugitive dust, including the use of water trucks. *Originally recommended in the DEIS as Mitigation Measure #38.*
- F-60. SGR shall implement best practices to minimize the impact of any air pollutants released during rail construction and operation. *Added in the FEIS.*
- F-61. SGR shall check the moisture content of the rail car loads of limestone prior to transportation and shall wet the surface of the rail car loads that appear to be dry prior to transporting them. *Added in the FEIS.*

## **Land Use**

- F-62. Where construction of the rail line would cause unavoidable property severance, damage to a home or to an irrigation system, or property demolition and/or destruction, SGR shall negotiate with the appropriate land owner(s) to ensure access to the severed property and/or replacement of the irrigation system, and, if appropriate, realign the track to avoid taking houses and/or to minimize the impacts. *Originally recommended in the DEIS as Mitigation Measure #39 and then modified in the SDEIS as Mitigation Measure #5A.*
- F-63. Prior to beginning rail construction, SGR shall consult with the TPWD and with affected landowners to determine whether the rail line would separate livestock and wildlife from water supplies. If the rail line would separate livestock and wildlife from water supplies and suitable alternative sources are not available, SGR shall develop additional water sources for livestock and wildlife to replace those lost, adversely affected, or rendered inaccessible to wildlife and livestock due to the rail line construction. *Added in the FEIS.*

## **Noise**

*The following conditions were originally recommended in the DEIS as Mitigation Measure # 40 and modified in the SDEIS as Mitigation Measures # 6A thorough #16A.*

- F-64. SGR shall equip all noise-producing project construction equipment and vehicles using internal combustion engines with mufflers, air-inlet silencers, and other shrouds, shields, or other noise-reducing features, and keep them in good operating condition that meets or exceeds original factory specifications. SGR shall equip mobile or fixed package equipment (e.g., arc-welders, air compressors) with shrouds and noise control features that are readily available for that type of equipment.
- F-65. SGR shall comply with all applicable local, state, or Federal regulations that apply to the noise produced by mobile or fixed equipment used during rail construction activities.
- F-66. SGR shall use electric-powered equipment instead of pneumatic or internal combustion-powered equipment during rail construction activities, where electric-powered equipment is available to perform the function.
- F-67. SGR shall minimize noise by locating material stockpiles, mobile equipment staging areas, parking areas, and maintenance areas as far as practicable from noise sensitive receptors.
- F-68. SGR shall establish and enforce a 10 mile per hour construction site and a 25 mile per hour private construction access road speed limit during the rail construction period.
- F-69. SGR shall not engage in rail construction activities between 7:00 p.m. and 7:00 a.m. Monday through Saturday or at any time on Sunday or on Federal holidays, except for emergency situations.
- F-70. SGR shall use noise-producing signals, including horns, whistles, alarms, and bells for safety warning purposes only.
- F-71. SGR shall ensure that no project-related fixed, mobile, or portable public address or music system is audible at any adjacent noise sensitive receptor, except for emergency situations.

- F-72. To minimize wheel squeal, if a loop track is used, SGR shall design the loop track with a radius greater than 1000 feet or 10 times the wheelbase of the largest car used on the tracks.
- F-73. SGR shall provide a track lubrication system for any track that is used to mitigate wheel squeal noise. However, this lubrication system shall only be used over the EARZ with prior approval from the EAA.
- F-74. SGR shall provide a movable point crossover (a crossover designed with a spring loaded piece to eliminate the noise producing gap) to mitigate excess noise from the crossover at the neck of any loop track (where the curved track reconnects with the tangent or straight track).

#### **Vibration**

- F-75. Prior to beginning rail construction, SGR shall conduct a survey to locate nearby wells and shall monitor the vibration levels at these wells during any pile driving activities related to rail construction to ensure that the peak particle velocity limit of 2.72 inches per second in any axis (in either of the two lateral directions or in the vertical direction) is not exceeded during construction. *Originally recommended in the DEIS as Mitigation Measures #41, #42, and #43 and modified in the SDEIS as Mitigation Measure #17A.*

#### **Recreational and Visual Resources**

- F-76. Prior to initiating construction activities, SGR shall identify the location of privately owned stock ponds within the project area and attempt to avoid them. If avoidance is not possible, SGR shall minimize intrusion to these water bodies to the extent practicable and minimize disturbances to important sources of influent to these water bodies. *Originally recommended in the DEIS as Mitigation Measure #44.*

#### **Cultural Resources**

- F-77. SGR shall comply with the terms of the PA, developed pursuant to 36 CFR 800.14(b), which has been executed by all required parties. *Originally recommended in the DEIS as Mitigation Measure #45.*

#### **Karst Features**

- F-78. SGR shall identify potential risk areas for sinkhole formation prior to initiating rail construction activities along the two-mile loading loop or one-mile parallel loading tracks and the first 1,500 feet of rail line south of the loading loop or loading tracks, and shall implement engineering design measures to protect the rail line from future sinkhole development. SGR shall conduct its identification efforts by one of the following two methods:
- a) If SGR identifies a significant void or cave during the grading and construction of the rail line, SGR shall undertake additional investigation by using qualified personnel to determine the potential risk of construction causing a sinkhole to develop; or
  - b) SGR shall conduct geophysical and geotechnical analysis to identify areas of sinkhole risk prior to construction. SGR shall further inspect any identified suspect voids by using geotechnical borings to determine the hazard probability. For locations at which the geotechnical borings reveal voids of significant enough size and proximity to the ground surface to pose a risk of collapse to the

rail line, SGR shall identify and implement additional hazard-mitigation efforts, such as moving the rail line to avoid the hazard area; intentionally collapsing or digging out and then filling in the void; grouting the void closed; or developing additional engineering controls to reinforce the rail line and to distribute the weight away from the void. *Originally recommended in the DEIS as Mitigation Measure #46.*

- F-79. If SGR identifies a significant karst feature during the grading and construction of the two-mile loading loop or one-mile parallel loading tracks and the first 1,500 feet of rail line south of the loading loop or loading tracks, SGR shall consult with a karst feature specialist and implement appropriate mitigation measures. These include developing an inventory of caves for endangered species and complying with the reasonable requirements of the State of Texas for construction activities in the recharge and transition zones of the Edwards Aquifer. *Originally recommended in the DEIS as Mitigation Measure #47.*

**Monitoring and Enforcement**

- F-80. SGR shall submit quarterly reports to SEA documenting the progress of its implementation of all of the environmental mitigation measures during rail construction and for three years after rail operations have begun. *Added in the FEIS.*
- F-81. SGR shall retain a community liaison to work with the community in addressing any concerns related to SGR's rail construction and operation activities, and assist in the implementation of the environmental mitigation measures. *Added in the FEIS.*