

Volume II
Chapter 4-Appendices

FINAL SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

STB Finance Docket No. 30186 (Sub-No. 3)
Tongue River Railroad Company, Inc. – Construction and Operation –
Western Alignment

Tongue River III-Rosebud and Big Horn Counties, Montana

Lead Agency:

Surface Transportation Board
Section of Environmental Analysis
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Chapter 4 – Final Recommended Mitigation Measures

This chapter presents the final set of recommended mitigation measures for Tongue River I, Tongue River II, and Tongue River III. Fifteen of the mitigation measures have been clarified or refined since publication of the Draft SEIS for Tongue River III including Measures 14, 17, 19, 21, 22, 24, 26, 29, 41, 42, 49, 55, 62, 84, and 87. The refinements were either identified by SEA in its ongoing environmental review or reflect agency and public comments on the Draft SEIS. For ease of review, the mitigation measures have been grouped under the applicable subject matters. Three new mitigation measures (90, 91, 92) are being recommended by SEA as part of this Final SEIS.

New mitigation measure **90** (Paleontological Resources) has been added at the request of BLM to protect paleontological resources discovered during surface disturbing activities related to construction along any part of the TRCC line. New mitigation measure **91** (Compensation Program) has been added at the request of the U.S. Fish and Wildlife Service to mitigate for lost wildlife habitat along the rail line prior to the beginning of construction. New mitigation measure **92** (Miles City Fish Hatchery) has been added to specify that TRRC has agreed to implement the Work Plan to mitigate impacts to the Miles City Fish Hatchery.

Land Use Mitigation Measures

Mitigation Measure 1 (Direct and Indirect Land Loss). TRRC shall negotiate compensation for direct and indirect loss of agricultural land on an individual basis with each landowner whose property will be affected as a result of the construction and operation of the line between Miles City and Decker. TRRC shall assist landowners in identifying and developing alternative agricultural uses for severed land, where appropriate. TRRC shall apply a combination of alternative land use assistance and compensation as necessary and agreed upon during right-of-way negotiations. *[TRRC II, Land Use Condition (1), modified by minor edits]*

Mitigation Measure 2 (ROW Fencing). TRRC shall construct fencing along the entire railroad right-of-way (ROW) Fence construction and type shall be used that allows movement of big game animals across the railroad ROW. The general fencing options to be used shall be developed by TRRC for approval by the Task Force in accordance with the process set forth in Mitigation Measure 14. In the event that a land owner does not agree with the Task Force's general determinations about fencing, the Task Force shall be consulted to determine mitigation on a case-by-case basis. *[TRRC I, Condition 10.1(5) and Land Use Condition (3), combined and modified to require the Task Force's involvement in the development of appropriate fencing types]*

Mitigation Measure 3 (Access Restrictions). TRRC shall install cattle passes (oval, corrugated metal structures, approximately 11 feet high and 12 feet wide at the base) along the railroad right-of-way to ensure passage of cattle under the rail line. TRRC shall

work with landowners to identify appropriate locations for cattle passes and private grade crossings for equipment. [*TRRC II, Land Use Condition (4)*]

Mitigation Measure 4 (Displacement of Capital Improvements). Where capital improvements are displaced as a result of construction or operation of this rail line, TRRC shall relocate or replace these improvements or provide appropriate compensation based on the fair market value of the capital improvements being displaced. [*TRRC II, Land Use Condition (2), modified to provide additional clarity regarding fair market value compensation*]

Mitigation Measure 5 (Impacts During Construction). During final engineering, TRRC shall consult with individual landowners to minimize conflict between construction activities and ranching operations. [*TRRC II, Land Use Condition (5), modified by minor edits*]

Mitigation Measure 6 (Construction Areas). TRRC shall confine all construction activities to the railroad right-of-way and to the construction camps along the rail line, at locations to be negotiated between individual landowners and TRRC. [*TRRC II, Land Use Condition (6), modified by minor edits*]

Mitigation Measure 7 (Construction Camps). TRRC shall require its contractors to assure that its construction camps are orderly. Upon completion of construction, TRRC shall return the camps to their previously existing use. [*TRRC II, Land Use Condition (7)*]

Mitigation Measure 8 (Construction Liaison). TRRC shall appoint a representative, with direct access to management, to work with primary construction contractors, subcontractors, and affected landowners to address any problems that develop during construction. [*TRRC II, Land Use Condition (8)*]

Mitigation Measure 9 (Wildfire Suppression and Control Plan). Prior to construction of this rail line, TRRC shall develop a Wildfire Suppression and Control Plan for fires occurring on the right-of-way as a result of rail construction/operations or undetermined causes. TRRC shall observe the following measures in developing the plan:

- (1) The plan shall be developed with the Montana Department of Natural Resources and Conservation's Eastern Land Office, as well as other appropriate governmental agencies and volunteer fire departments along the route.
- (2) The plan shall be developed by TRRC after final engineering and overall operation plans are complete. This will afford planners the benefit of specific information regarding TRRC's operation, equipment, and personnel that might be of use in case a fire occurs.
- (3) State-of-the-art techniques for fire prevention and suppression shall be evaluated and included in the plan, as appropriate.

[*TRRC II, Safety Condition (4), modified to clarify that the above measures are those required for fire suppression*]

Mitigation Measure 10 (Fire Prevention). To minimize the potential for railroad-caused fires, TRRC shall observe all general rail safety regulations promulgated by the Federal Railroad Administration regarding railroad operations. [*TRRC II, Safety Condition (4), modified to clarify that this measure is to help prevent fire*]

Mitigation Measure 11 (Fire Suppression). Prior to construction of the rail line, TRRC shall negotiate with local ranchers along the right-of-way the placement of fire suppression equipment so that it may be used to promptly extinguish fires during construction and operation of the line. [*TRRC II, Safety Condition (5), modified by minor edits*]

Mitigation Measure 12 (Fire Access Road). During construction and operation of the rail line, TRRC shall maintain a serviceable access road within, and access points along, the right-of-way at locations determined in consultation with the local fire officials, to permit entry to the railroad right-of-way of vehicles to aid in fire suppression. [*TRRC II, Safety Condition (6), modified by minor edit*]

Mitigation Measure 13 (Mobile Communications). Prior to beginning construction of this rail line, TRRC shall develop and install a mobile communications system between the local volunteer fire fighting units, train crews, and ranchers with property adjacent to the right-of-way to ensure adequate communication in emergency situations during construction and operation of this line. [*TRRC II, Safety Condition (7), modified by minor edit*]

Biological Resource Mitigation

Mitigation Measure 14 (Task Force). TRRC shall participate as a member of a Multi-agency/Railroad Task Force. The purpose of the Task Force shall be to approve the implementation and monitoring of biological (i.e., terrestrial and aquatic) mitigation measures for the entire rail line (Tongue River I, Tongue River II, and Tongue River III), with the exception of such issues concerning the MCFH.

Unless otherwise indicated in the mitigation conditions, TRRC is responsible for compliance with all biological mitigation conditions set forth below. As specified in the mitigation conditions themselves, TRRC shall prepare various surveys, plans and documents for review and approval by the Task Force. It is the responsibility of the Board representative on the Task Force to convene the Task Force when an appropriate issue involving terrestrial and aquatic matters arises. The Task Force, in conducting its review of any survey, plan or document related to terrestrial and aquatic issues, shall attempt to reach agreement and approval through consensus within 15 working days of receipt by all Task Force members of each survey, plan or document. However, if a consensus cannot be reached by the Task Force members, a vote shall be taken on the 15th working day and approval shall be determined by a majority of the Task Force members present (at least one half of the members present plus one vote). If the Task Force is unable to reach a decision, either through consensus or by a majority vote, the Board representative on the Task Force shall bring a recommended resolution back to the

Board within 10 working days of the vote, at which time the Board will make a final decision within 10 working days.

Task Force Members shall participate in the Task Force at their own discretion and expense and to the extent that their resources permit. Further, Task Force members may use additional resources available to them to accomplish mitigation. Other parties may be invited to consult on specific issues, as appropriate; however the actual membership of the Task Force is limited to the agencies specified in this condition.

Those agencies who have agreed to participate on the Task Force include the Board, Montana Department of Fish, Wildlife and Parks (MT DFWP), Montana Department of Natural Resources and Conservation (MT DNRC), United States Fish and Wildlife Service (USFWS), Bureau of Land Management (BLM), and United States Corps of Engineers (Corps). TRRC has also agreed to participate. The Board will act as the lead agency to coordinate the Task Force. Each participating agency, as well as TRRC, shall designate representative(s) to work with the Task Force. EPA shall be included on the mailing list for written reports and findings circulated by the Task Force to assure that EPA has the opportunity to raise any comments it might have. The Task Force shall inform EPA of critical issues related to its jurisdiction if the Task Force is unable to address such issues itself.

The Task Force will remain active until TRRC certifies to SEA that the rail line construction has been completed and that all construction mitigation measures have been implemented and for a period of two years of rail operations or any other period the Board may impose. [*TRRC II, Aquatic Condition A.9.1 General, modified to provide additional clarity, duration, and responsibilities to the Task Force*]

Mitigation Measure 15 (Material Changes). If there is a material change in the facts or circumstances upon which the Board relied in imposing specific environmental mitigation conditions, and upon petition by any party who demonstrates such material change, the Board may review the continuing applicability of its final mitigation, if warranted. [*TRRC III, new*]

Mitigation Measure 16 (Third-party Contractor). TRRC shall retain a third-party contractor to assist SEA in the monitoring and enforcement of mitigation measures on an as-needed basis until TRRC has completed project-related construction and for a period covering the first two years of railroad operations or for any oversight period the Board may impose. TRRC shall be consulted to determine if the matter can be resolved without the need for any action on the part of the contractor and if any action by the third-party contractor is deemed warranted by SEA following such consultation, the third-party contractor shall submit for TRRC's approval a budget for the requested work. [*TRRC III, new*]

Mitigation Measure 17 (Reporting). TRRC shall submit to SEA no less than every four months, beginning with the effective date of the Board's final decision in Tongue River III and continuing for the first two years of railroad operations, or for any other period

that the Board may impose, reports documenting the status of implementation of the Board's final environmental mitigation conditions. [*TRRC III, new*]

Mitigation Measure 18 (Plant Species of Concern). TRRC shall conduct a field search of the alignment during final-phase engineering of this line to identify plant species of concern (Federal and state) and to implement appropriate mitigation measures during construction activities if such species are found. This field search shall be conducted during the appropriate time of year to identify any potential rare plant species. (The survey schedule shall be approved by the Task Force in accordance with the process set forth in Mitigation Measure 14.) TRRC shall prepare and implement a formal mitigation plan approved by the Task Force for minimizing impacts on species of concern. [*TRRC III, new*]

Mitigation Measure 19 (Reclamation). During construction of this line, TRRC shall implement reclamation and revegetation of the right-of-way (ROW) at the earliest possible time after clearing has been completed. Revegetation shall be implemented only in those ROW areas with adequate substrate and grade. Wherever possible, construction and attendant revegetation shall be expedited. The following generally accepted practices shall be employed in the reclamation process. [*TRRC II, Vegetation Condition A.9.3.2(1), modified to clarify where reclamation activities shall take place*]

- (1) **Preconstruction Planning** – TRRC shall include the following elements in its reclamation planning:
 - (a) Designation of sensitive areas.
 - (b) Proposed time schedule of construction activities.
 - (c) Right-of-way clearing and site preparation plans.
 - (d) Preconstruction evaluation of soils to be disturbed. The soils' A horizon (the A horizon is the topmost soil layer that is commonly made up of unconsolidated organic matter (e.g., leaf litter) and is not saturated with water) shall be identified, removed, stored, and replaced prior to revegetation.
 - (e) Erosion and sediment control plans.
 - (f) Waste disposal plan.
 - (g) Restoration, reclamation, and revegetation plan. [*TRRC I, Condition 10.3(1)(a); TRRC II, Vegetation Condition A.9.3.2.(1)(a), modified to include soils evaluation*]

- (2) **Restoration/Reclamation Plan** – TRRC shall follow the following procedures in its restoration and reclamation plan:
 - (a) Commencement of reclamation as soon as practicable after construction ends, with the goal of rapidly reestablishing ground cover on disturbed soils that could support vegetation, with all cut and fill slopes mulched and seeded as they are completed. Twine used to hold bales of mulch together shall be of biodegradable material.
 - (b) Avoidance of reclamation when soil moisture is high or ground is frozen.

- (c) Use of straw mats in the revegetation process to reduce erosion and to add carbon back into the soil system to promote the accumulation of soil organic matter.
 - (d) Ripping and disking of soils prior to revegetation to prevent compaction of soils and to increase the ability of plant roots and water to penetrate the soil.
 - (e) Analysis of site soil requirements and seasonal precipitation patterns to identify planting dates for optimal revegetation success.
 - (f) Use of rapidly establishing plant species for thorough and rapid ground surface protection.
 - (g) Retention of a reclamation specialist to determine specific procedures for reclamation on steep slopes or locations near waterways.
 - (h) Revegetation shall not be implemented uniformly along the entire rail line, but rather revegetation criteria shall be based on the circumstances present in specific construction areas to assure that habitat and functionality are maintained within each ecosystem. *[TRRC II, Vegetation Condition A.9.3.2(1)(b), modified to clarify where reclamation efforts would be successful and include additional measures]*
- (3) **Revegetation Success Assurances** – To ensure revegetation success, TRRC shall implement the following measures:
- (a) Development of an inventory and documentation of pre-existing conditions.
 - (b) The type and quantity of seed, fertilizer, and other soil amendments to be used shall be determined based on soil chemical and physical properties. TRRC shall use native species for revegetation, where possible, unless alternatives are approved, in advance of application, by the Task Force in accordance with the process set forth in Mitigation Measure 14. On BLM tracts, all seeds shall be from native species.
Species to be used for revegetation may include, but are not limited to:
 - Western wheatgrass (*Pascopyrum smithii* (*Agropyron s.*))
 - Green needlegrass (*Nasella viridula* (*Stipa v.*))
 - Little bluestem (*Schizachyrium scoparium*)
 - Slender Wheatgrass (*Elymus trachycaulus*)
 - Blue flax (*Linum perenne*-forb)
 - Purple prairie clover (*Dalea lasiathera*-forb)
 - Bluebunch wheatgrass (*Pseudoroegneria spicata*)
 - Thickspike wheatgrass may be substituted **only** when western wheatgrass is unavailable
 - (c) Segregation of topsoil from subsoil and topsoil stockpiled for later application on the reclaimed ROW.
 - (d) Use of only seed of registered quality and germination success that has been certified as weed-free.
 - (e) Use of appropriate seeding techniques, such as drill seeding on level terrain and broadcast seeding or hydroseeding on slopes, to ensure distribution of seed mixture on individual microenvironments.

- (f) Use of mulch material that has been certified as weed free, such as straw and woodchips, as a temporary erosion measure and to minimize soil temperature fluctuations and soil moisture loss. Mulch shall be applied more heavily on slopes than on level terrain, and nitrogen levels shall be adjusted to reflect the increased demand during mulch decomposition.
- (g) Cover and compaction of seeded area following seeding.
- (h) Use of a minimum of 20 pounds per acre of pure live seed throughout the route, where applicable.
- (i) For slopes and construction areas near waterways, employment of a variety of Best Management Practices, including the use of sediment traps/basins, berms, contour furrows, silt fencing, straw bale barriers, rock checkdams, slope drains, toe-slope ditches, diversion channels, sodding, and erosion control blankets and/or mulching.
- (j) Monitoring of reclamation. Regrading shall be undertaken for revegetating areas not successfully reclaimed.
- (k) Development of success criteria.
- (l) Development of a timeline for completion of the revegetation plan as well as follow-up monitoring and enforcement of the revegetation plan and success criteria. [*TRRC I, Condition 10.3(1)(c); TRRC II, Vegetation Condition A.9.3.2(1)(c), modified to include examples of BMPs and Task Force approval*]

(4) Provisions for Areas of Special Concern

- (a) On all slopes less than 3:1 (a slope of 3:1 signifies 1 vertical unit for every 3 horizontal units), BMPs shall be utilized to effectively and efficiently revegetate the surfaces. BMPs have been identified by the National Resource Conservation Service (NRCS) for Montana, and these BMPs will be the primary guidance for all revegetation on slopes less than 3:1. Each cut and fill slope shall be evaluated individually, and the practices shall be modified to meet the needs of each individual slope and conditions. In general, these BMPs will be utilized unless site-specific conditions warrant different management practices. Below is a list of general BMPs that could be utilized by TRRC for revegetation of slopes less than 3:1, depending on the site-specific conditions at each individual cut/fill slope.
 1. Construction of furrows parallel to the slope contour to minimize erosion and stabilize seed beds by effectively reducing the length of the slope, which in turn will reduce the erosive properties of water by decreasing the water's kinetic energy.
 2. Minimization of foot traffic and grazing of domesticated animals so that the emerging vegetation at the site will establish more quickly.
 3. Weed control either by clipping or applying labeled herbicides so that decreased competition from invasive species will enable the intended species to maximize the use of limited soil, water, and nutrients.
 4. Preparation of the site seed bed utilizing standard agricultural techniques (e.g., disking, ripping) to facilitate plant emergence. If the site has limited

topsoil, additional salvaged soil shall be placed on the surface to facilitate the preparation of the seed bed and provide a minimum of 4 inches of soil for revegetation activities.

5. Practice of fertilization rates, species selection, and seeding rates on a site-specific basis by a range management specialist. All seeds utilized in the revegetation program shall comply with Montana State Seed Law and Regulations.
6. Use of varying seeding methods at the cut/fill sites, including broadcast seeding, hydroseeding, or traditional agricultural drilling methods. If the site is planted by broadcast or hydroseeding, the seeding rates shall be doubled to ensure adequate plant emergence.
7. Mulching on all slopes less than 3:1 to minimize erosion using mulches such as straw woven fabric or artificial mulches based on site-specific conditions.
8. Additional temporary measures to reduce run-on onto the revegetated site. On sites where run-on could be a significant contributor to erosion, temporary diversion devices may be warranted to route water around the revegetated area. These diversion devices shall be removed once the site has been successfully revegetated. Additionally, the diversion devices shall be constructed to minimize concentration of water that could cause excessive erosion on non-disturbed sites.
9. If the cut/fill slope material is primarily clinker or bedrock, the slope shall not be revegetated. [*TRRC II, Vegetation Condition A.9.3.2(1)(d)3, modified to include additional specifics regarding slopes*] [*TRRC II, Vegetation Condition A.9.3.2(1)(d)1; deleted here, inserted as modified as HYD-5*]; [*TRRC II, Vegetation Condition A.9.3.2(1)(d)2; deleted here, inserted as modified as SAF-10*]

Mitigation Measure 20 (Task Force Oversight of Revegetation Plan). TRRC's revegetation plans shall be subject to review and approval by the Task Force in accordance with the process set forth in Mitigation Measure 14. If it becomes clear that the success criteria of the revegetation plans are not feasible, the Task Force shall approve appropriate alternate mitigation. Yearly monitoring schedules and funds shall be arranged prior to construction of each rail segment, and work plans shall be approved by the Task Force in accordance with the process set forth in Mitigation Measure 14 before final engineering is complete. [*TRRC III, new*]

Mitigation Measure 21 (Noxious Weed Control). TRRC shall construct the rail line in compliance with county weed control plans for Rosebud and Big Horn counties, Montana. Except for the portion of the right-of-way described in Mitigation Measure 85 in and near the MCFH, TRRC, in consultation with local ranchers, the county extension agents, and the Task Force, shall develop a reasonable written Noxious Weed Control Program, which will include a Noxious Weed Survey, prior to commencing any construction of the rail line. The program shall include requiring construction methods that minimize the introduction and spread of noxious weeds, including the use of sterile ballast, washing of construction equipment prior to use to remove weed seed sources, and

the use of weed-free seed straw, mulching, and hydroseeding materials. TRRC shall also minimize digging in areas where the rhizomes of rhizomatous weed species such as leafy spurge might be cut and spread throughout the site.

- (1) The noxious-weed-control program shall include a combination of mechanical and herbicide spray methods to control noxious weeds. TRRC shall focus on non-chemical treatments first and shall use mechanical removal of weeds near watercourses wherever feasible, depending upon time of year. Spray sequences shall be utilized to ensure that weed plants do not reach maturity.
- (2) For riparian corridors, if the noxious-weed-control program proves unsuccessful in eradicating certain weed species, specific methods shall be identified by the Task Force to target individual noxious weed plants.
- (3) TRRC shall keep and reference records of herbicide application dates to ensure that the noxious-weed-control program goals are fulfilled. TRRC shall submit a report of weed control activities to the Task Force annually during construction. In all cases, only trained, licensed personnel shall be involved in noxious-weed-control applications and shall apply herbicides according to the label specifications. The appropriate protective equipment shall be supplied to the personnel responsible for application. [*TRRC II, Vegetation Condition A.9.3.2(2), modified to provide additional clarity regarding the noxious weed control requirements*]

Mitigation Measure 22 (Wetland Permit). TRRC shall prepare a Detailed Habitat Mitigation Plan (a document prepared to determine the appropriate habitat mitigation). TRRC shall adhere to all mitigation measures suggested in the Detailed Habitat Mitigation Plan as well as any measures imposed by the U.S. Corps of Engineers in any Section 404 permit(s) issued by the Corps for construction of the line. The Detailed Habitat Mitigation Plan (the Plan) shall be prepared during the permitting process and shall assure that adequate replacement of lost wetland functions and values occurs. The plan, which shall be approved by the appropriate agencies before project implementation, shall contain a statement of goals, a monitoring plan, long-term management/protection objectives and a commitment to conduct additional work, if required, to meet the goals of the plan [*TRRC III, new*].

Mitigation Measure 23 (Stream Survey). Prior to construction of each rail segment and once site access is granted, TRRC shall, in consultation with the Montana Department of Natural Resources, conduct surveys of ephemeral streams that would be crossed by the railroad to determine the potential impacts of erosion and sedimentation on state species of concern and consult with MT DNRC on appropriate mitigation. [*TRRC III, new*]

Mitigation Measure 24 (Biological Opinion). TRRC shall adhere to the terms and conditions of incidental take statements set forth by the U.S. Fish and Wildlife Service in a Biological Opinion, issued on July 12th, 2006. [*TRRC III, new*]

Mitigation Measure 25 (Aerial Survey). TRRC shall conduct an updated biological aerial survey during the winter before construction of each segment of the rail line begins. This aerial survey shall attempt to identify specific locations for ground surveys and any new winter ranges of species of concern. It shall also attempt to locate potentially active raptor nests especially in deciduous tree areas, while leaves are down. In addition, the aerial survey shall attempt to locate new prairie dog colonies along the route. Using the results of the surveys, TRRC will develop appropriate mitigation measures to minimize harm to species of concern, as needed, for approval by the Task Force in accordance with the process set forth in Mitigation Measure 14. *[TRRC II, Wildlife Condition A.9.3.1(1), modified to clarify that aerial surveys shall be required for species of concern and involvement of Task Force in developing any needed new conditions]*

Mitigation Measure 26 (Data Reconnaissance). Prior to the beginning of construction of each segment and once full access to the site of the railroad right-of-way is obtained, TRRC shall conduct aerial and ground-level surveys, as appropriate. Black-tailed prairie dog surveys shall be conducted to determine if construction of the line will traverse any additional prairie dog colonies. The surveys shall also determine the existence of black-footed ferrets. If black-footed ferrets are discovered, the Montana Department of Fish, Wildlife, and Parks shall be notified. Based on the surveys, TRRC shall develop appropriate means to mitigate the effects of construction and operation of the line on the black-tailed prairie dog and the black-footed ferrets for approval by the Task Force in accordance with the process set forth in Mitigation Measure 14. Regardless of the timing of construction, once full access to the site of the railroad right-of-way is obtained, TRRC shall survey the three black-tailed prairie dog colonies which will be traversed by the proposed railroad but are located on private properties and were not accessible due to landowner issues at the time the BA was prepared, for black-footed ferret occupancy. If a black-footed ferret or its sign is found during this survey, Section 7 Consultation shall be re-initiated with USFWS.

The surveys shall also locate habitat areas and nesting sites for the following species on the entire rail line. The surveys shall be conducted during the following time periods:

Big game (winter range)	December 1 to February 28
Sage/Sharp-tailed Grouse	March 15 to June 15
Raptors/Migratory Birds	May 15 to June 15
Bats	July 1 to July 31
Breeding Birds	May 15 to June 15
Reptiles/Amphibians	July 1 to August 31

TRRC shall identify big game winter range and active nests of sage grouse, sharp-tailed grouse leks (mating grounds) and raptors, particularly golden eagles and prairie falcons prior to the construction of any rail segments, on a map as part of the aerial and ground surveys. In each subsequent year of construction, additional surveys shall be conducted annually for the section (distance) of line that is to be built in that year. Due to the potential for nest initiation in the years after the initial survey, surveys shall be conducted

according to standard survey procedures during summer to determine the presence of nests or of reptile and amphibian species. Pedestrian surveys shall be done to locate habitat areas as well as indicate recent activity. Using the results of the surveys, TRRC shall develop appropriate mitigation measures, as needed, for approval by the Task Force in accordance with the process set forth in Mitigation Measure 14. [*TRRC II, Wildlife Condition A.9.3.1(2), modified to better explain reason for distance-specific annual surveys and involvement of Task Force if new conditions are needed*]

- (1) The purpose of the reconnaissance shall be to locate (a) big game winter range based on evidence, such as animal remains, hair, pellet groups, etc.; (b) sage grouse and sharp-tailed grouse leks; and (c) raptor nests, particularly golden eagles and prairie falcons. Any evidence of state or Federal threatened, endangered, or sensitive species shall also be documented during the reconnaissance. [*TRRC II, Wildlife Condition A.9.3.1(2)(a), modified to include Federally threatened, endangered or sensitive species*]
- (2) Any specific-use sites that are identified during the reconnaissance shall be mapped, described in field notes, photographed and evaluated for significance. Nesting species of concern shall not be disturbed during reconnaissance. Nests shall be described as active or inactive. Results of the ground reconnaissance shall be presented and used by TRRC for developing mitigation measures to minimize impacts to sensitive wildlife and wildlife-use areas for approval by the Task Force in accordance with the process set forth in Mitigation Measure 14. This could include, but would not be limited to, restricting construction activities near nests during the nesting period; employing nest site monitors to gauge the level of disturbance and halt construction if disturbance is great; and requiring off-site habitat enhancement or replacement for unavoidable losses of sensitive wildlife resources. [*TRRC II, Wildlife Condition A.9.3.1(2)(b), modified to provide additional clarity and involvement of the Task Force and include other possible mitigation measures*]
- (3) Surveys for sage and sharp-tailed grouse leks shall be conducted following the Montana Sage Grouse Conservation Plan of the Montana Sage Grouse Work Group. If a possible lek site is identified, observations shall be made between March 15 and June 15 to verify activity at each site. Surveys shall be conducted at dawn to listen for male activity at each lek and shall be completed at least five days apart.

The extent of each lek shall be mapped. Vegetative cover suitable for nesting and brooding habitat adjacent to each active lek shall also be mapped within a one-mile radius of the lek. Active leks shall not be destroyed by construction of the railroad. If impacts to active leks as a result of construction activities are unavoidable, TRRC shall seek approval from the Task Force in accordance with the process set forth in Mitigation Measure 14 as to whether avoidance of the lek site during the mating season (March and April), is adequate mitigation. If the Task Force determines that the permanent loss of the lek would be a significant

and unavoidable impact, TRRC shall develop appropriate replacement compensation for potential loss of grouse habitat for approval by the Task Force in accordance with the process set forth in Mitigation Measure 14. If the success of lek site mitigation, as determined by the Task Force in accordance with the process set forth in Mitigation Measure 14, has not been resolved during the construction period, TRRC shall continue monitoring into the operational period and shall advise SEA of its progress, in accordance with the reporting requirements of Mitigation Measure 17. [*TRRC II, Wildlife Condition A.9.3.1(2)(c), modified to clarify possible mitigation options*]

- (4) To reduce impacts of the Tongue River Railroad on prairie dog colonies, prior to construction, TRRC shall develop appropriate means to mitigate the effects of construction and operation of the Tongue River Railroad on the black-tailed prairie dog for approval by the Task Force in accordance with the process set forth in Mitigation Measure 14. [*TRRC II, Wildlife Condition A.9.3.1(2)(d, e and f), modified to clarify*]

Mitigation Measure 27 (Night Survey). TRRC shall conduct nighttime surveys in conjunction with the ground reconnaissance required by Mitigation Measure 26 between July 1 to July 31, prior to construction of each segment of the rail line, for the purpose of identifying the location of any bat species of concern. [*TRRC III, new*]

Mitigation Measure 28 (Construction Surveys). TRRC shall utilize monitors during construction to identify and clearly mark areas containing sensitive biological resources for avoidance and to educate construction contractors and the employees that will be involved in rail construction activities about sensitive resources and the areas to be avoided during the rail construction activities. [*TRRC III, new*]

Mitigation Measure 29 (Destruction of Habitat). Active habitats for state species of concern such as nests, brooding locations, and migratory corridors, etc., shall not be destroyed during construction of the railroad. If impacts to these areas (short of destroying them) are unavoidable, TRRC seek approval from the Task Force in accordance with the process set forth in Mitigation Measure 14 as to whether avoidance during a species' active season would be adequate mitigation. If the Task Force determines that the permanent loss of habitat is a significant and unavoidable impact, TRRC shall develop appropriate replacement compensation for this potential loss of habitat in accordance with the process set forth in Mitigation Measure 91. In addition, if the Task Force determines that there has been significant habitat alteration after construction, TRRC shall develop appropriate habitat compensation for alteration of habitat in accordance with the process set forth in Mitigation Measure 91. [*TRRC III, new*]

Mitigation Measure 30 (Construction Activity Coordination). Rail construction activities shall be coordinated and timed to protect wildlife to the maximum extent possible. As part of these efforts, all reasonable attempts shall be made to minimize

construction at big game wintering sites from December through March. [*TRRC II, Wildlife Condition A.9.3.1.1(1) clarified*]

Mitigation Measure 31 (Compensation Program). TRRC shall include the following mitigation measures as part of final right-of-way negotiations with private landowners along the ROW:

- (1) If the landowner agrees and where practicable, TRRC shall construct ponds adjacent to the railroad grade, or use the railroad grade as a dam. These ponds could include “dugout” type ponds and “bypass” ponds designed to be filled during high flows where appropriate. [*TRRC II, Terrestrial Condition A.9.3(2)*]. For the construction of ponds, the railroad embankment (berm) shall form one (high) side of a depression. In its development of options for wildlife passage across the railroad right-of-way, TRRC shall consider ponds as a possible obstruction passage. Ponds shall also include erosion control features where appropriate. [*TRRC III, new*]
- (2) If adjacent landowners agree, TRRC shall provide public access, in appropriate locations, if any, along the rail line right-of-way. [*TRRC II, Terrestrial Condition A.9.3(3), modified to clarify that access would only be provided if the adjacent landowners agreed*]
- (3) TRRC shall grant conservation easements along the rail line where appropriate. [*TRRC I, Condition 10.1(4); TRRC II, Terrestrial Condition A.9.3(4), modified by minor edits*]

Mitigation Measure 32 (Pronghorn Antelope). TRRC shall prepare surveys that identify locations of pronghorn concentration, distributions, and movement for approval by the Task Force in accordance with the process set forth in Mitigation Measure 14. This survey program shall be conducted prior to the beginning of construction of each segment of the rail line. TRRC shall present the results of the study to the Task Force for its review and shall consider conducting a radio telemetry study (funded by TRRC) if preliminary surveys indicate heavy pronghorn use within the project area.

Once potential impacts have been fully determined following the above mentioned studies, TRRC shall work with the Task Force to develop appropriate measures, as needed, to minimize impacts from the railroad. The following measures shall be considered and implemented, as appropriate:

- (1) establishment and enforcement of fencing standards along the railroad right-of-way that will allow movement of pronghorn while excluding livestock, as needed;
- (2) identification of optimal passage-site locations for pronghorn movement across the railroad;

- (3) use of grillwork as needed to exclude livestock while allowing movement of pronghorn across railroad at optimal locations;
- (4) follow-up monitoring on an annual basis to evaluate effectiveness of passage.

Monitoring shall continue through the oversight and reporting period previously identified in Mitigation Measure 17. In the unlikely event that this follow-up monitoring shows that the above mentioned mitigation measures are inadequate and the Task Force concludes that impacts to the wildlife's ability to migrate are resulting in a decline in species population, TRRC shall develop additional mitigation options for approval by the Task Force in accordance with the process set forth in Mitigation Measure 14. *[TRRC II, Wildlife Conditions (1) and (2), modified to provide additional clarity regarding survey requirements and specify potential mitigation measures that are appropriate for species]*

Mitigation Measure 33 (Speed Limits). Prior to construction of each rail segment, TRRC shall post and strictly enforce speed limits on all construction access roads to minimize roadkills of wildlife due to increased traffic from construction workers temporarily living in the area. TRRC shall also advise all rail construction personnel that the purpose of these speed limits is to protect wildlife. *[TRRC III, new]*

Mitigation Measure 34 (Aquatic Resource Sampling). Prior to beginning construction activities in locations where the railroad would cross the Tongue River, or where extensive riprapping would occur, TRRC shall conduct a three-part study plan to identify aquatic resources. The results of this study shall be utilized in the development of mitigation plans for the river crossing and riprap areas for approval by the Task Force in accordance with the process set forth in Mitigation Measure 14. This study shall include (1) a stream habitat survey to identify existing habitat features and values; (2) benthic macroinvertebrate sampling to identify community composition and numbers; and (3) a fish spawning survey to determine the importance of the area to spawning of fish. TRRC shall undertake the three-part study methods outlined below. *[TRRC I, Condition 9.1(1); TRRC II, Aquatic Condition A.9.2(1), modified to provide clarity regarding the timing and location of the study]*

- (1) **Stream Habitat Survey.** The stream habitat survey shall utilize methods described in Methods for Evaluating Stream, Riparian, and Biotic Conditions by William S. Platts, Walter F. Megahan, and G. Wayne Minshall. Stream transects shall be established and impact zones shall be identified in appropriate locations to evaluate existing conditions and to monitor changes during construction. Along each transect, the following variables shall be measured:
 - (a) Stream width.
 - (b) Stream shore depth.
 - (c) Stream average depth.
 - (d) Pool quality and forming feature (in feet).
 - (e) Riffle (a ripple in a stream or a current of water) (in feet).
 - (f) Run (in feet).

- (g) Substrate (mineral or organic material that forms the bed of a stream).
 - (h) Stream bank soil alteration rating.
 - (i) Stream vegetative stability rating.
 - (j) Stream bank undercut and angle.
 - (k) Vegetation overhang.
 - (l) Embeddedness. [*TRRC II, Aquatic Condition A.9.2(1)(a), modified to include identification of impact zones*]
- (2) **Benthic Macroinvertebrates.** TRRC shall collect quantitative samples of benthic macroinvertebrates immediately upstream and downstream of each proposed location of disturbance during rail construction activities. The collected specimens shall then be counted and identified following the Montana Department of Environmental Quality's Rapid Bioassessment Protocols for Sampling and Sample Analysis Standard Operating Procedures. [*TRRC I, Condition 9.1(1)(b); TRRC II, Aquatic Condition A.9.2(1)(b), modified to clarify the most useful techniques for sampling benthic macroinvertebrates*]
- (3) **Fish Survey.** Prior to construction of each rail segment, TRRC shall conduct a fish survey and fish habitat survey. The fish survey shall be conducted to estimate population and to monitor potential mortality or emigration due to construction impacts. Mark-recapture methods shall be incorporated in each survey.

TRRC's fish habitat survey shall be conducted to determine habitat value, quantity, and utilization. In general, methods shall follow the methods used in recent work on the Tongue River for comparative purposes. Methods used in the comparative analysis may include those from Community Structure and Habitat Associations of Fishes in the Lower Tongue and Powder Rivers (R. Trenka 2000). Sampling shall occur before and after construction in impacted areas to allow quantification of effects, if any. The establishment of reference sites in areas outside of immediate impact zones, identified in the Stream Habitat Survey described above in Section 1, shall be used as a control to which impacted area surveys may be compared. All major habitat types shall be represented, and the total number of sites shall depend upon how many habitat types are identified by the Stream Habitat Survey. For each major habitat type at each bridge location, at least three affected sites and one reference site shall be surveyed. Sampling gear shall be adapted to each habitat type and standardized for both before and after construction surveys to allow for meaningful data comparisons. At each fish habitat survey site, the following shall be recorded:

- (a) Habitat type.
- (b) Sampling gear used (hoop net, fyke net, electrofishing, seines, etc.).
- (c) Species present (number, age class, length, and weight).
- (d) Relative abundance by species.
- (e) Catch per unit effort (before and after construction).

If determined to be necessary by the Task Force, a spawning habitat potential survey shall be conducted at each proposed bridge location as well as in areas of proposed riprapping and other perennial, intermittent, and ephemeral draws that the railroad crosses. Sampling periods for the spawning survey shall be early spring after ice breakup, after peak runoff, and in the fall. *[TRRC II, Aquatic Condition A.9.2(1)(c), modified to broaden the purpose of the surveys]*

Mitigation Measure 35 (Aquatic Mitigation Techniques). With the exception of construction of the portion of the rail line described in Mitigation Measure 88 (MCFH), prior to construction of each rail segment and once aquatic resource sampling is completed and detailed data on the aquatic resources to be affected has been obtained, TRRC shall develop appropriate mitigation measures for approval by the Task Force in accordance with the process set forth in Mitigation Measure 14. These mitigation measures may include the following, as appropriate:

- (1) Preparation of a construction schedule which, if possible and practical, provides for instream work at those times that are (a) least critical to the specific fishery or aquatic resource occurring at a site, and (b) least conducive to sediment transport. These periods may differ by stream and species affected.
- (2) Development of special procedures for the handling of displaced materials and petroleum products during construction in order to prevent introduction of such materials into the aquatic system.
- (3) Filtering of silty water, which would result from dewatering for footing construction, through settling pond systems.
- (4) Assuring that riprap is washed and essentially silt free.
- (5) Double-shifting of work crews at river crossing sites to minimize the duration of construction activities in or near river or stream banks. *[TRRC II, Aquatic Condition A.9.2(2), modified by minor edits]*

Soils and Geology Mitigation Measures

Mitigation Measure 36 (Stormwater Pollution Prevention Plan). TRRC shall prepare a Stormwater Pollution Prevention Plan (SWPPP) and an Erosion Control Plan using Montana Department of Environmental Quality Guidelines Best Management Practices (BMPs) and shall obtain coverage under the Montana Pollutant Discharge Elimination System General Permit for Storm Water Discharges Associated with Construction Activity. Prior to construction of each rail segment, TRRC shall determine which BMPs shall be employed at different locations in the project area.

The SWPPP shall identify areas that have a high potential for soil erosion due to topography, slope characteristics, facility activities, and/or other factors. (Generally, areas with little or no vegetative cover, 0-25 percent on slopes greater than or equal to 15

percent, have a high potential for soil erosion.) To determine areas of high erosion potential, TRRC shall consult with the County Natural Resource Conservation Service, research, as appropriate, published soil survey reports, and/or conduct soil/geologic studies.

The SWPPP may include the use of sediment basins, berms, filter strips, covers, diversion structures, sediment control fences, straw bale dikes, seeding, sodding, and/or other control structures or BMPs. The SWPPP shall identify and locate the BMPs to be used during and after construction to control sediment discharges to surface waters. The SWPPP shall include a description of storm water BMPs appropriate for the rail line, which TRRC shall implement. The SWPPP shall also include a schedule for implementation and address the following:

- (1) Individual(s) responsible for preventing pollution and for implementing storm water management BMPs.
- (2) Risk identification and assessment/material inventory.
- (3) Spill prevention and response procedures.
- (4) Storm water management.
- (5) Sediment and erosion prevention.
- (6) Visual inspections.
- (7) Record keeping and internal reporting.
- (8) Non-storm water discharges. [*TRRC III, new*]

Mitigation Measure 37 (Saline and Sodic Soils). TRRC shall, to the maximum extent feasible, avoid saline and sodic soils in its construction of the rail line. Where possible, saline or sodic soils shall be buried, and topsoil more conducive for revegetation left on the finished surface to aid in revegetation efforts and reduce erosion. [*TRRC III, new*]

Mitigation Measure 38 (Geotechnical Investigations). Prior to beginning construction of this line, TRRC shall conduct geotechnical investigations to identify soils/bedrock in cut areas with the potential for slumping to occur following construction. In areas with a potential for slumping, TRRC shall include, as appropriate, engineering controls such as flattened slopes, adequate drainage, retaining structures, geotechnically designed stabilization techniques, terracing and surface water-runoff control. [*TRRC III, new*]

Mitigation Measure 39 (Slumping). If slumping occurs during construction of this line, TRRC shall institute remedial actions immediately following a slope failure. These actions shall include, as appropriate, implementation of emergency sediment control structures such as furrows, removal of slumped material to a location that will not allow erosion and transport of this material to any waterways, implementation of measures to promote revegetation, and a geotechnical evaluation, if feasible, to determine the best way to prevent additional slumping. Remedial action also may involve, as appropriate, the installation of drains or adding material to the toe of the slump to stabilize it. [*TRRC III, new*]

Mitigation Measure 40 (Erosion). Prior to beginning construction of this line, TRRC shall perform an analysis to determine the potential for erosion (wind and water) at proposed cut and fill locations. The analysis shall compare slope lengths and gradients to determine the optimum gradients and mitigation measures for minimizing erosion at each proposed cut and fill location. *[TRRC III, new]*

Mitigation Measure 41 (Sediment Delivery). Prior to beginning construction, TRRC shall assess the potential for construction and operation of the rail line to generate, transport and deliver sediments to a given body of water. Contributions of sediments shall be measured as “bedload,” or material that is transported along the bed of a stream rather than in suspension. Woman pebble counts (woman pebble is a methodology for sampling and categorizing substrate) may be used for sediment data. TRRC shall also conduct a pre-construction assessment that includes an evaluation of the potential in-stream effects of sediment delivery to a given water body and conformance with pending or completed TMDLs and associated water quality restoration plans. *[TRRC III, new]*.

Mitigation Measure 42 (Soil Survey). Prior to any construction of this line, TRRC shall conduct a soil survey along the alignment, including a review of soil survey data from Big Horn and Rosebud counties and local conservation districts. As part of this survey, TRRC shall obtain, query, review, and interpret digital soil survey maps for the area within 300 meters of the rail alignment. Soils with similar characteristics along the route shall be grouped, and detailed descriptions of each grouping shall be prepared. The descriptions shall include information regarding the soil group’s distribution, structure, permeability, and erodibility. After completing its survey, TRRC shall prepare a series of reports to be made available to SEA depicting the soils for the entire alignment. *[TRRC III, new]*

Hydrology and Water Quality Mitigation

Mitigation Measure 43 (Water Quantity and Quality). To assure that overall water quantity and quality are not unnecessarily altered or diminished by this project, TRRC shall submit detailed information about its plans and construction, for review and approval, to applicable agencies, including the U.S. Corps of Engineers, local conservation districts, and the Water Protection Bureau of the Montana Department of Environmental Quality prior to any construction of this line. *[TRRC II, Hydrology and Water Quality Condition (1), modified to reflect current state agency]*

Mitigation Measure 44 (Streambed Crossings). During design, TRRC shall consult with and meet the reasonable requests of Montana Department of Natural Resources and Conservation, Montana Department of Environmental Quality, the US Army Corps of Engineers, and the local conservation districts for bridge crossings over the streambed of the Tongue River. *[TRRC II, Hydrology and Water Quality Condition (2), modified to reflect current state agency]*

Mitigation Measure 45 (Permitting and Bank Stabilization). TRRC shall consult with the US Army Corps of Engineers (Corps) and the Environmental Protection Agency

(EPA) to implement the Corps' permit requirements under Section 404 of the Clean Water Act and EPA's riverbank stabilization methods at bridge crossings and riprap areas in order to prevent or reduce the impacts of soil erosion and sedimentation loading to area streams and the Tongue River. Appropriate methods may include placing or planting logs, trees, and other vegetative plantings with rock riprap along bridge sites and stream-encroachment areas. To prevent unnecessary degradation of water quality due to erosion, revegetation efforts shall begin as soon as possible after construction is completed in a given area. *[TRRC II, Hydrology and Water Quality Condition (3), modified to provide additional clarity regarding riverbank stabilization methods]*

Mitigation Measure 46 (Streambed Crossing Construction). Rail construction activities involving stream crossings, including bridges and culverts and activities requiring stream-bank encroachments (riprap, for example), shall occur during periods of low or no flow in the streams affected. *[TRRC II, Hydrology and Water Quality Condition (6)]*

Mitigation Measure 47 (Bank Stabilization). In constructing this line, TRRC shall stabilize banks with naturally occurring trees, shrubs, and grass. Riprap or gabions shall be used only as a supplement where such methods would improve fish habitat, or in cases where engineering requirements so dictate, such as downstream from culverts. *[TRRC II, Vegetation Condition A.9.3.2(1)(d)1, modified for minor edit]*

Mitigation Measure 48 (Tongue River Crossing). TRRC shall design the crossing of the Tongue River so that it does not require a center abutment, and so that the side abutments are placed outside of the riparian zone. The side abutments shall be located to provide adequate passage for wildlife (10 feet above the ordinary high-water mark). *[TRRC III, new]*

Mitigation Measure 49 (Culverts). TRRC shall ensure that all culverts and other drainage structures installed at non-perennial stream crossings during construction of this line comply with the design criteria guidelines of the American Railway Engineering and Maintenance of Way Association, established in the year 2000. This means that at a minimum, culverts shall be designed to discharge a 25-year flood without static head at entrance and a 100-year flood using the available head at entrance, the head to two feet below base of rail, or the head depth of 1.5 times the culvert diameter/rise, whichever is less. Additionally, TRRC shall incorporate the culverts into the existing grade of the streambed to avoid, to the maximum extent possible, changing the character of the streambed and impacting migrating amphibians and reptiles. Open bottom culverts shall be used to the extent feasible. The final design of culvert sizing should be determined by the project engineer based on the best available on-site information *[TRRC II, Hydrology and Water Quality Condition (4), modified to reflect current industry practice and include migrating species]*

Mitigation Measure 50 (Perennial Streams). Where possible, TRRC's final alignment shall be designed to avoid the floodplain of perennial streams. Where the railroad grade infringes upon the floodplain, TRRC shall install drainage structures to assure that the

grade does not restrict or reroute the 25-year flood. *[TRRC II, Hydrology and Water Quality Condition (5), modified to reflect current Montana Floodplain and Floodway Protection Act (MCA 76-5-401 through 406) requirements]*

Mitigation Measure 51 (Bridge Design). Prior to beginning construction of this line, TRRC shall prepare an analysis for the Montana Department of Natural Resources and Conservation, documenting that the final design for any bridges constructed over rivers and perennial streams located in a designated 100-year floodplain shall not increase the upstream elevation of the 100-year flood by more than 0.5 feet or significantly increase flood velocities. If TRRC's analysis concludes that any bridge would increase the upstream elevation of the 100-year flood by more than 0.5 feet or significantly increase flood velocities, TRRC shall redesign the bridge to reduce these impacts to a less than 0.5 foot increase in the 100-year flood elevation. *[TRRC III, new]*

Cultural Resources Mitigation

Mitigation Measure 52 (Programmatic Agreement). To protect cultural and historic resources, TRRC shall comply with the provisions of the revised Programmatic Agreement for the entire line entered into for this project. *[TRRC II, Cultural Resources Condition (1), modified to reflect that SEA has prepared a revised Programmatic Agreement]*

Transportation and Safety Mitigation

Mitigation Measure 53 (Construction-worker Transportation). During construction, TRRC shall encourage its contractors to provide laborers with daily transportation to the work site from a central location. *[TRRC II, Transportation Condition (1)]*

Mitigation Measure 54 (Access Road). To the extent possible, TRRC shall confine all construction-related traffic to a temporary access road within the right-of-way (ROW). Where traffic cannot be confined to this access road, TRRC shall ensure that contractors make necessary arrangements with landowners or affected agencies to gain access from private or public roadways. The access road shall be used only during construction of the railroad grade, after which construction shall be confined to the ROW. *[TRRC II, Transportation Condition (2)]*

Mitigation Measure 55 (Memorandum of Agreement). As agreed to by TRRC and the Montana Department of Transportation (MDT), TRRC shall enter into a memorandum of agreement (MOA) with MDT evaluating project-related safety needs. The MOA shall establish duties and responsibilities of the parties relative to construction of the rail line, including sidings, and possible encroachment on interstate and non interstate facilities maintained by MDT. The MOA shall also include the evaluation of each crossing for safety needs and potential traffic problems during construction and operation, including passage of emergency vehicles. Based on these evaluations, the MOA will set forth specific safety measures, such as warning signal and devices, and appropriate measures to alleviate any traffic problems, such as grade

separations. A construction traffic plan will also be prepared by TRRC for review and approval by MDT. [*TRRC I, Condition 4.3(2) and TRRC II, Transportation Conditions (3 and 5), combined and modified to reflect current state agency and MOA*]

Mitigation Measure 56 (Tongue River Reservoir Dam). During construction of the rail line, TRRC shall provide 24-hour-a-day access to the Montana Department of Natural Resources and Conservation for the maintenance of the Tongue River Reservoir Dam either via the construction of temporary roads and/or flagging devices or by other reasonable alternatives. [*TRRC II, Tongue River Dam Reconstruction Condition (1), modified to reflect completion of dam reconstruction*]

Mitigation Measure 57 (Speed Limits). All TRRC vehicles and equipment, and vehicles and equipment owned and operated by TRRC contractors working on the project, shall strictly adhere to speed limits and other applicable laws and regulations when operating such vehicles and equipment on public roadways. [*TRRC I, Condition 4.2 (3), modified by minor edits*]

Mitigation Measure 58 (Traffic Control Devices). TRRC shall comply with the Montana Department of Transportation's Manual of Uniform Traffic Control Devices for work zone safety. [*TRRC II, Transportation Condition (4), modified to reflect current agency requirement*]

Mitigation Measure 59 (Safety Meetings). TRRC shall adhere to applicable Federal and state construction safety regulations and Best Management Practices to minimize the potential for construction-related accidents. TRRC shall require its construction contractors to conduct safety meetings for their workers to ensure that each person understands safety measures and procedures. [*TRRC II, Safety Condition (1), modified to clarify that TRRC shall use Best Management Practices*]

Mitigation Measure 60 (Emergency Response Plan). Prior to beginning construction of this rail line, TRRC shall develop an internal Emergency Response Plan consistent with Montana State plans required under Title 10, Montana Code Annotated. This plan shall include a roster of agencies and specific persons to be contacted for specific types of emergencies during rail construction, operations and maintenance activities, procedures to be followed by particular rail employees, emergency routes for vehicles, and location of emergency equipment. [*TRRC II, Safety Condition (2), modified for minor edits*]

Mitigation Measure 61 (Emergency Response Coordination). TRRC shall establish cooperative relationships with the Federal, state, and local agencies with responsibility for disaster/emergency response in the area. TRRC shall provide operational plans and copies of the Emergency Response Plan identified above, when it is available in draft form, to all such agencies and incorporate their comments as appropriate in its final Emergency Response Plan. The agencies to be contacted shall include, at a minimum, Disaster and Emergency Services Division of the Department of Military Affairs, Helena; rural fire departments along the route of the entire line; local ambulance and emergency medical services and air evacuation services in Billings and Sheridan; the Montana

Department of Environmental Quality, specifically including the Remediation Division; Montana Department of Fish, Wildlife and Parks; Montana Department of Natural Resources and Conservation; the Northern Cheyenne Tribe; the Bureau of Land Management; U.S. Fish and Wildlife Service; and other local agencies or other groups identified by these agencies and entities as key to disaster response. *[TRRC II, Safety Condition (3), modified to clarify that all such agencies shall receive a copy of the plan]*

Mitigation Measure 62 (Spill Prevention). TRRC shall develop, in cooperation with appropriate Federal, state, and local agencies, a plan to prevent spills of oil or other petroleum products (gasoline, diesel fuel, solvents), during construction, operation, and maintenance of this rail line.

TRRC's Spill Prevention Plan shall include measures pertaining to oil spills set forth in the mitigation plan in the Tongue River II DEIS. The plan developed by TRRC shall include conditions that shall be imposed on companies and contractors involved in construction of the Tongue River rail line. The plan shall provide emergency notification procedures, including a priority list of specific names and phone numbers of designated contacts (government and private) that are to be notified in case of events such as a fuel spill, range fire, or medical emergency during construction, operation and maintenance of the rail line. The following items shall be included in the plan:

- (1) Procedures for reporting a spill.
- (2) Definition of what constitutes a spill.
- (3) Methods of containing, recovering, and cleaning up a spill.
- (4) Preventive measures that will be employed to prevent ground water and surface water contamination.
- (5) BMPs that would apply to areas in and around rail yards to reduce the potential of ground water and surface water contamination.
- (6) A list of equipment needed to remediate a spill and its location.
- (7) A list of all governmental agencies and management personnel to be contacted and coordinated with, including but not limited to the following:
 - (a) Disaster and Emergency Services Division of the Department of Military Affairs, Helena. (This is the most important contact to develop a coordinated response.)
 - (b) Rural fire departments along the route.
 - (c) Local ambulance and emergency medical services, as well as air evacuation services in Billings and Sheridan.
 - (d) Montana Department of Environmental Quality, especially the Remediation Division.
 - (e) Montana Department of Fish, Wildlife, and Parks.
 - (f) Montana Department of Natural Resources and Conservation.
 - (g) Northern Cheyenne Tribe.
 - (h) Bureau of Land Management (BLM) or U.S. Fish and Wildlife Service. BLM would have fire suppression responsibilities on public land for fires handled by Type I Interagency Management Teams and Type II Geographic Area Teams.

- (i) Other local agencies or groups that are identified by the agencies and entities above as key to disaster remediation.
- (8) Assurances that techniques and procedures to be employed in cleanup are the best practicable technology currently available.

[TRRC II, Safety Condition (8), which incorporates by reference Sections A.7.3.(1) a, A.7.3(2) a-i, and A.7.3(4), modified (1) to incorporate language of sections referred to and to clarify that the above measures apply to the entire rail line, and (2) to clarify roles of BLM and USFS.]

Mitigation Measure 63 (Construction Sites). TRRC shall remove all litter, debris, and soils associated with petroleum spills prior to reclamation of construction sites. A state-approved landfill shall be used. *[TRRC II, Vegetation Condition, A.9.3.2(1)(d)2, modified by minor edit]*

Mitigation Measure 64 (Oil and Fuel). Prior to construction of this line, TRRC shall develop appropriate guidelines to be used by individual rail construction contractors, including (1) steps to use during refueling to guard against overflows, (2) storage of fuel in metal storage tanks surrounded by impervious dikes that are capable of containing greater than the capacity of the tank, (3) removal of waste oil to appropriate sites, and (4) maintenance of equipment in good running order during performance of construction and routine maintenance activities. *[TRRC II, Safety Condition (9), modified by minor edit]*

Mitigation Measure 65 (Herbicide Spills). If an herbicide spill occurs, TRRC shall respond by immediately containing the spill, notifying the appropriate Federal, state, and local agencies, and implementing appropriate clean-up procedures. *[TRRC II, Safety Condition (10), modified to provide additional clarity regarding TRRC's actions]*

Mitigation Measure 66 (Train Operations). TRRC shall adhere to all reasonable Federal, state, and local requirements regarding train operations, including requirements that relate to maximum durations of crossing blockage, speed limits within and outside of incorporated areas, and candlepower for train lighting. *[TRRC I, Condition 4.3(3), modified to clarify the intent and responsible parties]*

Mitigation Measure 67 (Descending Grades). If a train's speed reaches 5 mph more than the train's maximum authorized speed on descending grades of 2 percent or more, TRRC's trains shall come to a complete stop as quickly as possible, using an emergency application of the train's air brakes.

- (1) After the train has stopped, the train shall be secured by applying additional hand brakes, and once secured, the train shall be inspected and no further train movement shall be made until authorized by a designated railroad employee.
- (2) TRRC shall conduct an immediate investigation into the cause of any incident in which the train's speed reaches 5 mph more than the train's authorized maximum speed and shall initiate appropriate corrective action.
- (3) Event recorder data shall be routinely inspected to ensure full compliance with these requirements. *[TRRC III, new]*

Mitigation Measure 68 (Hazardous Materials Transport). In the event that TRRC should transport hazardous materials, TRRC shall comply with the requirements of the Hazardous Materials Transportation Act (49 USC 1080 et seq.) and its governing regulations. TRRC shall also comply with the Federal Railroad Administration (FRA) hazardous materials regulations for rail transport (including 49 CFR 174), along with FRA's general rail safety regulations (49 CFR 209 to 236). *[TRRC III, new]*

Air Quality Mitigation

Mitigation Measure 69 (Fugitive Dust). When vegetation is removed from the right-of-way, TRRC shall clear the smallest possible amount of cover to minimize impacts of wind erosion and fugitive dust. *[TRRC II, Air Quality Condition (2), modified to clarify the intent of the measure]*

Mitigation Measure 70 (Revegetation). Where devegetation has taken place, TRRC shall begin revegetation as soon as possible. Where immediate revegetation is not possible, TRRC shall implement alternative stabilization measures such as matting and mulching. *[TRRC II, Air Quality Condition (3)]*

Mitigation Measure 71 (Site Watering). TRRC shall suppress dust at all work areas by using water trucks, and shall make water available to local landowners, governmental agencies, or associations for the purposes of dust suppression. TRRC shall conduct dust suppression activities regularly and frequently during the dry periods. *[TRRC II, Air Quality Condition (4)]*

Mitigation Measure 72 (Open Burning). TRRC shall conduct any open burning in strict accordance with local or other applicable regulations, and shall obtain all necessary permits and observe all necessary safety precautions. *[TRRC II, Air Quality Condition (5)]*

Mitigation Measure 73 (Inspection and Maintenance). TRRC shall subject all heavy equipment and vehicles used in the construction, operation, and maintenance of the railroad to a regular inspection and maintenance schedule to ensure that operation complies with manufacturer's specifications and that equipment is running as cleanly and efficiently as possible. *[TRRC II, Air Quality Condition (1)]*

Noise and Vibration Mitigation

Mitigation Measure 74 (Construction Timing). To the extent practicable, TRRC shall schedule major noise-producing construction activities during the weekday and daylight hours to limit disturbances during more sensitive times of day. *[TRRC II, Noise Condition (1)]*

Mitigation Measure 75 (Construction Equipment). All equipment used for construction shall comply with all reasonable Federal, state, and local noise regulations

and ordinances. *[TRRC I, Condition 6.1(3), modified to clarify that all equipment used in construction shall comply with reasonable noise regulations]*

Mitigation Measure 76 (Dam Vibration). Prior to construction of the Western Alignment, TRRC shall conduct a seismic analysis based on local geology and specific blasting plans to quantify the risk of construction-related activities to the Tongue River Reservoir Dam. TRRC shall consult with Montana Department of Natural Resources and Conservation during the development of the geotechnical-drilling/blasting plans for construction of those portions of the Western Alignment located within two miles of the dam, to limit peak particle velocity and minimize vibration impacts that may occur. *[TRRC III, new]*

Mitigation Measure 77 (Speed Limits). During operation, TRRC shall minimize speed of trains in incorporated areas and in the unincorporated community of Ashland, to minimize noise. *[TRRC I, Condition 6.1(4), modified to provide additional clarity]*

Mitigation Measure 78 (Quiet Zone). TRRC shall consider establishing a community quiet zone for the proposed project corridor, if the Secretary of Transportation determines that the creation of a community quiet zone and the cessation of the use of train horns at rail crossings would not present a significant risk with respect to loss of life or serious personal injury. This measure shall be based upon the rules outlined in the Federal Register, Department of Transportation Federal Railroad Administration *Use of Locomotive Horns at Highway-RailGrade Crossings; Interim Final Rule* (December 18, 2003). *[TRRC III, new]*

Mitigation Measure 79 (Schools). In the case of schools in the Ashland area, including the St. Labre school, where activities during the normal school day could be interrupted by construction or maintenance noise, TRRC shall make every attempt to consult with school officials to schedule its construction and maintenance activities in a manner most acceptable to those who would be impacted. This could include scheduling weekend or evening rail construction or maintenance work in some cases. *[TRRC I, Condition 6.1(2), modified by minor edits]*

Mitigation Measure 80 (Recordation of Noise Contours). In order to prevent unintentional development within the 65 dBA contour, TRRC shall provide a copy of a map to each county and city planning department with jurisdiction along the proposed rail line, depicting the 65 dBA contour. The planning departments can make this information available to landowners so that they can make informed decisions about future development. *[TRRC III, new]*

Socioeconomic Mitigation

Mitigation Measure 81 (Community Issues). TRRC shall appoint a representative to consult with the affected county and local governments for the purpose of assisting impacted communities in addressing potential social and economic problems. To accomplish this, TRRC shall provide all practical assistance to the government planning

agencies involved. [*TRRC I, Condition 3.1, modified to clarify TRRC as the party responsible for this measure*]

Mitigation Measure 82 (Northern Cheyenne Tribe). TRRC shall appoint a liaison between TRRC management and the Northern Cheyenne Tribe to ensure that tribal members receive an equal opportunity to apply for and secure temporary construction and full-time operational jobs with the railroad. [*TRRC II, Social and Economic Condition (2)*]

Mitigation Measure 83 (Mine Development). TRRC shall make available to local governments and to the Northern Cheyenne Tribe all public data and studies that it is aware of concerning the facilities and services that may be required as a result of mine development in the area. [*TRRC II, Social and Economic Condition (1)*]

Miles City Fish Hatchery Mitigation

Mitigation Measure 84 (Protection of MCFH Water Supply Pipelines). As agreed to by TRRC and the Montana Department of Fish, Wildlife and Parks, TRRC shall relocate, as necessary, portions of the water supply pipelines from the Yellowstone River and Tongue River so that each pipeline crosses the rail right-of-way at a right angle or perpendicular to the rail alignment. To ensure structural integrity of the water supply pipelines, the portion of each pipeline lying perpendicular beneath the rail alignment shall be encased in a reinforced concrete pipe (RCP). The RCP shall be of sufficient size to allow for inspection and maintenance of the water supply pipelines. Access to the pipelines beneath the rail alignment shall be provided by installation of reinforced concrete manholes, located on each side of the rail alignment. The RCP manholes shall meet or exceed the American Railway Engineering and Maintenance of Way Association's standard specifications for installation of utilities underneath railway embankments. The design plans for the relocated section of the water pipelines and all associated elements shall be prepared by TRRC and provided to Montana Department of Fish, Wildlife, and Parks for review and approval prior to being constructed. TRRC shall locate and protect (and replace if harmed) outgoing water pipelines that would impact operations if affected by construction or operation. [*TRRC III, new*]

Mitigation Measure 85 (Weed Control on MCFH). As agreed to by TRRC and Montana Department of Fish, Wildlife and Parks, TRRC shall use only mechanical means of weed control in its right-of-way adjacent to the MCFH between the points where the rail line crosses Interstate 94 to the connection with the Burlington Northern-Santa Fe Railroad Company main line. If it becomes necessary to utilize herbicides to control noxious weeds along the right-of-way in this area, herbicides will only be used with prior approval from the MT DFWP, as to the type of herbicide, application rate, means of application, wind speed and direction. [*TRRC III, new*]

Mitigation Measure 86 (MCFH Continuing Consultation). TRRC shall continue to make itself available to consult with Montana Department of Fish, Wildlife and Parks to reach consensus on any remaining issues concerning the environmental effects on MCFH from railroad construction and operations, for up to a period of six months after the effective date of the Board's final decision on TRRC's application in Tongue River III. TRRC shall use its best efforts to achieve resolution of any outstanding issues during that period. If no resolution is achieved during that period, the requirement for continued consultation shall cease unless both TRRC and MCFH agree that the period should be extended and so advise the Board in writing. At the end of the consultation period (whether extended by mutual agreement or not), TRRC shall advise the Board of its positions in writing. Montana Department of Fish, Wildlife and Parks is invited to provide its position, and either TRRC or MT DFWP (or both) may request that the Board develop a condition designed to mitigate any remaining concerns of MT DFWP related to the environmental effects on MCFH that the Board determines warrant mitigation. TRRC shall locate and protect (and replace if harmed) outgoing water pipelines that would impact operations if affected by construction or operation. [*TRRC III, new*]

Mitigation Measure 87 (MCFH). TRRC shall adhere to the reasonable mitigation conditions imposed by the Montana Department of Fish, Wildlife and Parks in any easement granted by the State allowing TRRC to cross the MCFH. [*TRRC III, new*]

Fort Keogh Livestock and Range Research Station (LARRS) Mitigation

Mitigation Measure 88 (Department of Agriculture). TRRC shall adhere to the reasonable mitigation conditions imposed by the U.S. Department of Agriculture (USDA) in any easement granted by USDA allowing TRRC to cross the LARRS property line. [*TRRC III, new; the USDA is currently preparing new mitigation conditions that would apply to TRRC for crossing the LARRS property. To avoid any inconsistency between the USDA mitigation conditions, SEA is recommending TRRC I Condition 2.2.2 be superseded by this general condition.*]

Spotted Eagle Lake Mitigation

Mitigation Measure 89 (Tree Buffers). As agreed to by TRRC, TRRC shall provide a tree buffer between the Spotted Eagle Lake recreation area and the railroad right-of-way in order to reduce the impact of train noise upon those pursuing recreational activities and to moderate the visual impact to that area. [*TRRC I, Condition 6.1(6), modified to clarify the tree buffer requirement at the Spotted Eagle Lake recreation area.*]

SEA's Additional Mitigation Measures

Mitigation Measure 90 (Paleontological Resources). If significant paleontological resources are discovered during surface disturbing activities related to construction of any part of the TRRC line, all work that potentially would damage the resource shall cease, the area of concern shall be protected, and the Board notified as soon as possible. Appropriate mitigation measures shall be developed by SEA and implemented as soon as

possible. These mitigation measures could include, as appropriate, collection and curation of scientifically significant fossils, additional sampling, and/or monitoring of excavation. *[TRRC III, New]*

Mitigation Measure 91 (Compensation Program). TRRC shall participate in the development of a reasonable compensation program for lost wildlife habitat along the rail line prior to beginning construction on any portion of the rail line. The goal of the compensation program shall be to ensure that there is no net decrease in wildlife-habitat values resulting from the project. Habitat values of acreage lost shall be assessed using the U.S. Fish and Wildlife Service's Habitat Evaluation Procedure. TRRC shall be responsible for acquiring land (through purchase, conservation easements or other measures) and enhancing the wildlife-habitat value on that land to achieve the no-net-loss goal, and developing and implementing a monitoring plan to evaluate success of enhancement measures. Monitoring shall continue through the oversight and reporting period described in Mitigation Measure 17. The process of valuing habitat loss, acquiring and enhancing new lands, and implementing the monitoring plan shall be done by TRRC with prior approval of the Task Force in accordance with the process set forth in Mitigation Measure 14. The process of valuing habitat loss for individual species or habitat types shall include an as needed analysis of potential "habitat fragmentation", i.e., assessment of the direct loss of wildlife habitat, reduction in the size of existing habitat patches, creation of more edge-type habitat, and creation of barriers that block movement of wildlife between patches. An example of appropriate habitat compensation could include the purchase by TRRC of "cutoff" land parcels containing good wildlife habitat, and the donation of these lands to the Montana Department of Fish, Wildlife, and Parks for beneficial wildlife management. *[TRRC I, Condition 10.1(1); TRRC II, Terrestrial Condition A.9.3(1), modified to clarify the goal of the compensation program]*

Mitigation Measure 92 (Miles City Fish Hatchery). As agreed to by TRRC, TRRC shall implement the work plan entitled, "Revised Work Plan for High Resolution Vibration Monitoring, Evaluation of Potential Effects of Tongue River Railroad Construction and Operation, and Potential Mitigation at Miles City Fish Hatchery" prepared by Womack & Associates, Inc. dated April 13th, 2006. *[TRRC III, New]*

Chapter 5-Errata

This chapter presents changes and corrections to the Draft SEIS. The changes were either identified by SEA in its ongoing environmental review or identified through agency and public comments on the Draft SEIS. Each change or correction states the chapter, page, paragraph, and sentence, table, or figure in the Draft SEIS, which is being updated. In each case, words being added are underlined and words being deleted are denoted by ~~strikeout~~.

Executive Summary

Table 1-1 – Comparison of Key Environmental Issues

Topic	Proposed Western Alignment	Approved Four Mile Creek Alternative
<i>Land Use</i>		
<i>Number of homes displaced</i>	0	2
<i>Total acreage required for ROW</i>	672	765
<i>Land owners affected</i>	13	15
<i>Biological Resources</i>		
Number of non-perennial stream crossings	42	40
Estimated acreage of wetlands disturbed	1.69	6.09
Number of endangered species potentially affected	3	3
<i>Soils and Geology</i>		
Volume of earth moved (million cubic yards)	17.3	10.3
Volume of potential erosion (tons/year) during construction	18,300 - 28,700	14,600 - 23,800
<i>Hydrology and Water Quality</i>		
Number of river bridge crossings	1	1
Potential increase in sediment load (tons/year) in Tongue River	6,770 - 10,600	3,650 - 6,000
<i>Cultural and Paleontological Resources</i>		
Estimated number of prehistoric and historic cultural resources in ROW (subject to change based on pre-construction surveys).	9	6

Topic	Proposed Western Alignment	Approved Four Mile Creek Alternative
<i>Transportation and Safety</i>		
Number of at-grade public road crossings	4	7
Estimated annual derailments	0.32	0.55
<i>Air Quality</i> (tons/mile/year)		
Construction period dust emissions	7.07 <u>13.30</u>	4.39 <u>10.06</u>
Operational emissions-combined total for CO,NO _x ,PM ₁₀ ,SO ₂ ,VOC	16.85 <u>42.8</u>	25.84 <u>47.5</u>
<i>Noise and Vibration</i>		
Number of sensitive receptors adversely affected during construction	1	4
Number of sensitive receptors adversely affected during operation	0	5
<i>Socioeconomics</i>		
Environmental justice	N/A ^a	N/A ^a
Net change in regional employment (jobs) during operation	-7	+4
<i>Energy</i>		
Fuel use per train (gallons)	1,826	2,798

Note: ^a The Draft SEIS does not identify any disproportionately adverse environmental justice impacts. Please refer to Chapter 4, Section 4.3.9.4, for a complete discussion of environmental justice.

Chapter 1

Page 1-3, Lines 9-11

At Four Mile Creek, the proposed Western Alignment would cross the county road with a 100-foot-long bridge and would run approximately ~~320~~ 2,700 feet west of the Hosford Diamond Cross Ranch headquarters. The alignment of the Four Mile Creek Alternative would be approximately 300 feet south of the ranch headquarters.

Chapter 2

Page 2-2, Figure 2-1

The word “Proposed” has been omitted where it preceded the King Creek Mine, the E. Otter Creek Mine, and the W. Otter Creek Mine.

Page 2-1, lines 18-19

SEA preliminarily concludes that both the “build” alternatives would result in ~~some~~ environmental impacts.

Chapter 3

Page 3-5, line 22.

An invitation to Native American Tribes with historical ties to the Tongue River Valley to participate in the PA process. The Tribes include the ~~NPRC~~, Arapaho, Oglala Sioux, Shoshone, and Standing Rock Sioux Tribal Councils.

Chapter 4

Page 4-7, line 1

Other Vegetation. Noxious Weeds. Ranchers have expressed concern about the introduction and propagation of noxious weeds along the ROW resulting from the construction of either the proposed Western Alignment or the approved Four Mile Creek Alternative. ~~In addition to being a fire hazard, weeds can also reduce crop production.~~ Due to the soil disturbance from the proposed construction the possibility of noxious weed infestations sharply increases. The infestations could result in a loss of crop production along the Tongue River corridor and surrounding areas. Spotted knapweed, Houndstongue, Canada Thistle and Burdock are the four known weed species that are present along the Tongue River at this time. Other possible species are primarily Leafy Spurge and Salt Cedar, but any weed seeds could be brought in on equipment used within the construction area.

Page 4-10, lines 9-18

Bald eagles occur along the Tongue River as migrants and winter residents. They forage primarily on fish, waterfowl, and carrion. During migration, as many as 50 bald eagles have been counted along the Tongue River from Miles City to the upper end of the Tongue River Reservoir (Farmer 1992), and it was estimated that 10 to 15 bald eagles winter along the river below the dam (USFWS 1992). Currently, there could be as many as 60 wintering bald eagles along the Tongue River (Hazelwood, personal communication, 2003). In February 2004, an aerial survey was conducted for bald eagles nesting and/or wintering (BLM 2002b) along the entire proposed Tongue River Railroad, including the proposed Western Alignment and the approved Four Mile Creek Alternative. The MT DFWP conducted a similar aerial survey in the winter of 2005 (MT DFWP 2005) Additional surveys may be needed if construction does not commence until more than three years after approval.

Page 4-10, lines 24-36

~~Two nests, Nest 03 and Nest 04, where bald eagle activity has been observed, have been identified in the project area. (See Figure 4-2.) Nest 03 is located approximately 3,700 feet (0.7 miles) east of the proposed Western Alignment centerline and is considered active. In comparison, Nest 03 is several miles from the approved Four Mile Creek Alignment ROW.~~

~~Nest 04 was found in 1992 and is located about 4,750 feet (0.8 miles) from the Tongue River I alignment. The nest was surveyed in 1992 through 2002, and it was found to be active each year. In 2000, Nest 04 Alternate was discovered in the same location as Nest 04 and was determined to be active. It was inactive in 2001 but active again in 2002 (DuBois, personal communication, 2003). The exact location of the Nest 04 Alternate has not been determined, and for the purpose of the BA, Nest 04 and Nest 04 Alternate are considered to be in the same active territory. In 2003, there was no production data, but incubation was observed on this nest; therefore, it was considered active in 2003 (MT DFWP 2003a).~~

~~Six nests, Nests 03, 02 Alternate, 04, 07, 08 and 12, where bald eagle activity has been observed, have been identified in the project area. (See Figure 4-2.) Nest 03 is located approximately 3,700 feet (0.7 miles) east of the proposed Western Alignment centerline and is considered active. In comparison, Nest 03 is several miles from the approved Four Mile Creek Alignment ROW.~~

~~Nest 02 Alternate was first identified during the April 16, 1999 aerial survey as a large stick nest in a cottonwood tree about 0.3 mile downstream from the previous location of Nest 02. This nest was similar in size and shape to Nest 03, suggesting that it could have been constructed by bald eagles. No eagles were seen at or near the nest on April 16, 1999; instead, it was occupied by a red-tailed hawk. Bald eagles may build alternate nests within a breeding area (MBEWG 1994). In 2005, a bald eagle was observed at this nest, which is about 4300 feet (0.8 mile) from the Western Alignment portion of the Tongue River Railroad.~~

~~Nest 04 was found in 1992 and is located about 4,750 feet (0.8 miles) from the Tongue River I alignment. The nest was surveyed in 1992 through 2002, and it was found to be active each year. In 2000, Nest 04 Alternate was discovered in the same location as Nest 04 and was determined to be active. It was inactive in 2001 but active again in 2002 (DuBois, personal communication, 2003). The exact location of the Nest 04 Alternate has not been determined, and for the purpose of the BA, Nest 04 and Nest 04 Alternate are considered to be in the same active territory. In 2003, there was no production data, but incubation was observed on this nest; therefore, it was considered active in 2003 (MT DFWP 2003a).~~

~~Nest 07 was first identified during the April 2005 aerial survey. A bald eagle was observed in the nest during this survey. It is about 2,889 feet (0.55 miles) from the Tongue River Railroad.~~

Nest 08 was first identified during a 2004 aerial survey and again during the April 2005 aerial survey. A bald eagle was observed in the nest during the 2005 survey. It is about 3,661 feet (0.69 miles) from the Tongue River Railroad.

Nest 12 was first identified during a 2004 aerial survey and again during the April 2005 aerial survey. A bald eagle was observed in the nest during the 2005 survey. It is about 3,556 feet (0.67 miles) from the Tongue River Railroad.

Page 4-13, line 1

Table 4-3 – State Rankings of Species of Concern

Rank	Description	Ranked Species In or Near the Project Area
<u>S1</u>	<u>At high risk because of extremely limited and/or rapidly declining numbers, range, and/or habitat, making it highly vulnerable to global extinction or extirpation in the state.</u>	<ul style="list-style-type: none"> • <u>Black-footed ferret (see Federal Species of Concern)</u>
<u>S2</u>	<u>At risk because of very limited and/or declining numbers, range, and/or habitat, making it vulnerable to global extinction or extirpation in the state.</u>	<ul style="list-style-type: none"> • <u>Sauger</u> • <u>Great Plains toad</u> • <u>Milk snake</u> • <u>Western hognose snake</u> • <u>Baird’s sparrow</u> • <u>Black-backed woodpecker</u> • <u>Brewer’s sparrow</u> • <u>Burrowing owl</u> • <u>Cassin’s kingbird</u> • <u>Lewis’ woodpecker</u> • <u>Dwarf shrew</u> • <u>Meadow jumping mouse</u> • <u>Spotted bat</u> • <u>Pallid bat</u> • <u>Townsend’s big-eared bat</u>
<u>S3</u>	<u>Potentially at risk because of limited and/or declining numbers, range, and/or habitat, even though it may be abundant in some areas.</u>	<ul style="list-style-type: none"> • <u>Northern leopard frog</u> • <u>Plains spadefoot toad</u> • <u>Snapping turtle</u> • <u>Spiny softshell turtle</u> • <u>Greater short-horned lizard</u> • <u>Sagebrush lizard</u> • <u>American white pelican</u> • <u>Bald eagle (see Federal Species of Concern)</u> • <u>Grasshopper sparrow</u> • <u>Greater sage grouse</u> • <u>Lark bunting</u>

Rank	Description	Ranked Species In or Near the Project Area
		<ul style="list-style-type: none"> • <u>Loggerhead shrike</u> • Northern goshawk • Red headed woodpecker • Sage thrasher • Black-tailed prairie dog • Dwarf shrew (S2S3) • Merriam’s shrew
S4	<u>Uncommon but not rare (although it may be rare in parts of its range), and usually widespread. Apparently not vulnerable in most of its range, but possibly cause for long-term concern.</u>	N/A
S5	<u>Common, widespread, and abundant (although it may be rare in parts of its range). Not vulnerable in most of its range.</u>	N/A

A Montana fish species of concern, the blue sucker (*Cycolptus elongates*), occupies the lower reaches of the Tongue and Yellowstone Rivers, downstream of the proposed Western Alignment. Two other state species of concern, the sturgeon chub (*Macrhybopsis gelida*) and the paddlefish (*Polyodon spathula*), occupy the lower reaches of the Yellowstone River, downstream of the proposed Western Alignment.

These species are not discussed in Section 4.2.2.2 because that section addresses wildlife potentially present in the vicinity of the proposed Western Alignment and the approved Four Mile Creek Alternative. Potential impacts to downstream fish resources are addressed in Tongue River I and Tongue River II. Neither the proposed Western Alignment nor the approved Four Mile Creek Alternative is likely to result in additional impacts to these species.

Page 4-16, lines 5-9

American White Pelican (*Pelecanus erythrorhynchos*), S3. The American white pelican is a migratory bird that travels extensively. Breeding colonies are found within the state of Montana, however, within the project area the American white pelican is considered a transient or migrant (MT NHP 2005). It uses a variety of aquatic habitat types for foraging. It is found on rivers, streams, lakes, ponds, and marshes that are typical in the Tongue River Reservoir and Tongue River region. Its breeding habitat is restricted to flat, barren, earthen islands. Nesting colonies are usually in areas unobstructed by vertical structures.

Page 4-21, lines 19-28

The proposed Western Alignment and the approved Four Mile Creek Alternative are located within Zone V, which extends northward from the Tongue River Reservoir Dam to a point near Birney, north of the proposed Western Alignment. In Zone V, the deepwater withdrawal system of the Tongue River Reservoir Dam releases cool hypolimnetic waters to the Tongue River. Directly downstream of the Tongue River Reservoir Dam, the river supports a trout fishery. MT DFWP annually stocks the Tongue River below the dam with hatchery-raised rainbow trout. ~~There is a small amount of overwinter survival of these fish.~~ In this section of the river, there is also a very small brown trout population, although a report completed by MT DFWP in 2000 recommended that brown trout be stocked in the Tongue River Reservoir over a five year period to reestablish a naturally occurring population. ~~which is not supplemented by stocking.~~ The water gradually warms as it moves downstream from the Tongue River Reservoir Dam into a more typical prairie stream system.

Page 4-21, lines 31-32

Research has found that fish populations in the reservoir, ~~with the exception of northern pike,~~ are healthy and reproducing (Elser et al. 1977 MT FWP, 2005).

Page 4-25, lines 40-41

The principal bedrock unit in the Tongue River Alignment area is the Fort Union Formation, which is composed of the Tongue River, the Lebo, and the Tullock members ~~an extensive sedimentary deposit that~~ that covers many parts of Montana, Wyoming, North Dakota, and South Dakota.

Page 4-31, lines 2-3

BLM considers all vertebrate fossils scientifically significant. Invertebrate and plant fossils may be determined to be significant on a case-by-case basis. ~~Fossil resources are part of the rock formations in which they occur.~~ Most fossils occur in sedimentary rocks, where they may be distributed extensively, both vertically and horizontally, throughout the units in which they occur, or they may occur in discontinuous pockets.

Page 4-35, lines 15-18

Rocks of the Fort Union ~~Formation Group~~ in the Four Mile Creek Alternative and proposed Western Alignment project areas include only the Tongue River member Formation, although the lower rock of this member is known to be interstratified with rocks of the Lebo member a few miles west of the project area (McLellan 1991).

Page 4-38, lines 24-28

Secondary highways are eligible for State and Federal construction funding, and all gravel surface Secondary Highways are maintained by the counties. Most paved Secondary Highways are maintained by the State of Montana. They are functionally classified as rural collector. ~~Secondary highways are eligible for state and Federal construction funding, and are maintained by the counties. They are functionally classified as rural collector roads. Traffic levels for area roads are relatively low,~~

reflecting the rural character of the area (see Table 4-10). See Figure 4-5 for the location of roads in the vicinity of either the proposed Western Alignment or the approved Four Mile Creek Alternative ROW.

Page 4-38, line 30

S566 extends from S314 northwest of the Tongue River Reservoir to Ashland. This two-lane section of roadway is approximately 60 miles long, with a gravel or ~~seoria~~¹⁵ clinker¹ surface ranging from 24 to 28 feet wide.

Page 4-48, Section 4.2.9.1

There is a small Amish community settled on 1,040 acres of land about 6 miles north of Ashland. Due to the fact that the Amish travel in horse drawn buggies, they are susceptible to traffic related impacts. Several mitigation measures are included in the SEIS to address potentially adverse effects related to traffic safety. Measures 53, 54, and 57 are specifically designed to limit the amount of construction-related traffic on public roads and reduce instances of speeding when construction traffic does utilize public roads. Implementation of these measures would reduce the potential that the Amish community would be disproportionately affected by project-related traffic.

Page 4-55 & 56, Section 4.2.10

In addition to private lands and state-owned properties, the Tongue River Valley also contains lands owned by either the BLM or USFS. Recreation activities that are known to occur on these lands include wildlife viewing, hunting, fishing and camping. However, most of the BLM tracts are grazing lands and are not generally used by the public for camping, picnicking, hiking, rafting, boating, swimming, and other non-hunting activities. These lands provide hunting opportunities for mule and white-tailed deer, pronghorn antelope, and game birds by the lessee and (where public access is available) by the public. Because most of the tracts are small and isolated, they are not as attractive to hunters as other public and private land in larger tract sizes.

Page 4-55, lines 42-47

A subdivision development informally known as Cormorant Estates, adjacent to the northern border of the park, includes land on the north shore of the Tongue River Reservoir, west of the dam. ~~It has eleven lots, one with a cabin.~~ According to TRRC, four of the 11 lots within the subdivision have cabins on them and the remaining undeveloped lots are still for sale. The cabin closest to the centerline of the proposed Western Alignment is approximately 1,250 feet. The next closest is approximately 1,500 feet, and the remaining two cabins are approximately 2,000 to 2,200 feet from the alignment centerline. There are three cabins on Boat House Point, which is located on the south side of Cormorant Bay. These cabins are approximately 5,000 to 5,200 feet from the proposed Western Alignment. Three cabins are located on the north side of Cormorant Bay and just west of the Tongue River Dam spillway. These cabins are in

¹ Clinker is defined as rock, usually sandstone, claystone or siltstone, that is baked by underlying coal seam fires.

excess of 3,000 feet east of the proposed Western Alignment. The location of all these cabins in relation to the proposed Western Alignment is shown on the aerial exhibits provided in Appendix A.

Page 4-56, lines 28-32

The clearer, lower-temperature stretch of the river downstream from the dam contains rainbow and brown trout. The rainbow trout fishery is maintained with hatchery stock, ~~and little over winter survival occurs.~~ The mouth of the Tongue River may be used as a spawning stream for Yellowstone River shovelnose sturgeon, burbot, paddlefish, and blue sucker. Northern pike are also a popular sport fish in the river (Clancey 1980).

Page 4-59, line 18

If lands are acquired via easement as opposed to fee title, the lands would revert to their former use upon abandonment of the railroad.

Page 4-61, line 27

Mitigation Measure 2 (ROW Fencing). TRRC shall construct fencing along the entire railroad right-of-way (ROW) ~~where required to control livestock, as requested by the landowner. If fencing is requested,~~ Fence construction and type shall be used that allows movement of big game animals across the railroad ROW. The general fencing options to be used shall be developed by TRRC for approval by the Task Force in accordance with the process set forth in Mitigation Measure 14. In the event that a land owner does not agree with the Task Force's general determinations about fencing, the Task Force shall be consulted to determine mitigation on a case-by-case basis. *[TRRC I, Condition 10.1(5) and Land Use Condition (3), combined and modified to require the Task Force's involvement in the development of appropriate fencing types]*

Page 4-63, lines 42-45

Cormorant Estates is located to the southeast of the proposed Western Alignment, similar to the approved Four Mile Creek Alternative, and would not experience significant direct effects, such as the loss of land, or indirect effects, such as noise and vibration, from the construction of either alignment.

Page 4-63, lines 46-47

At its closest point, the proposed Western Alignment would be approximately ~~750~~ 1,250 feet from the nearest Cormorant Estates residence, which is closer than the approved Four Mile Creek Alternative.

Page 4-69, Line 19

Mitigation Measure 14 (Task Force). TRRC shall participate as a member of a Multi-agency/Railroad Task Force. The purpose of the Task Force shall be to approve the implementation and monitoring of biological (i.e., terrestrial and aquatic) mitigation measures for the entire rail line (Tongue River I, Tongue River II, and Tongue River III), with the exception of such issues concerning the MCFH.

Unless otherwise indicated in the mitigation conditions, TRRC is responsible for compliance with all biological mitigation conditions set forth below. As specified in the mitigation conditions themselves, TRRC shall prepare various surveys, plans and documents for review and approval by the Task Force. It is the responsibility of the Board representative on the Task Force to convene the Task Force when an appropriate issue involving terrestrial and aquatic matters arises. The Task Force, in conducting its review of any survey, plan or document related to terrestrial and aquatic issues that are proposed to it, shall attempt to reach agreement and approval through consensus within 15 working days of receipt by all Task Force members of each survey, plan or document. However, if a consensus cannot be reached by the Task Force members, a vote ~~shall~~ will be taken on the 15th working day and approval ~~shall~~ will be determined by a majority of the Task Force members present (at least one half of the members present plus one vote). If the Task Force is unable to reach a decision, either through consensus or by a majority vote, the Board representative on the Task Force ~~shall~~ will bring a recommended resolution back to the Board within 10 working days of the vote, at which time the Board will make a final decision within 10 working days.

Task Force Members shall participate in the Task Force at their own discretion and expense and to the extent that their resources permit. Further, Task Force members may use additional resources available to them to accomplish mitigation. Other parties may be invited to consult on specific issues, as appropriate; however the actual membership of the Task Force is limited to the agencies specified in this condition.

Those agencies who have agreed to participate on the Task Force include the Board, Montana Department of Fish, Wildlife and Parks (MT DFWP), Montana Department of Natural Resources and Conservation (MT DNRC), United States Fish and Wildlife Service (USFWS), Bureau of Land Management (BLM), and United States Corps of Engineers (Corps). TRRC has also agreed to participate. The Board will act as the lead agency to coordinate the Task Force. Each participating agency, as well as TRRC, shall designate representative(s) to work with the Task Force. EPA shall be included on the mailing list for written reports and findings circulated by the Task Force to assure that EPA has the opportunity to raise any comments it might have. The Task Force shall inform EPA of critical issues related to its jurisdiction if the Task Force is unable to address such issues itself.

The Task Force will remain active until TRRC certifies to SEA that the rail line construction has been completed and that all construction mitigation measures have been implemented and for a period of two years of rail operations or any other period the Board may impose. [*TRRC II, Aquatic Condition A.9.1 General, modified to provide additional clarity, duration, and responsibilities to the Task Force*]

Page 4-70, lines 16-20

Mitigation Measure 16 (Third-party Contractor). TRRC shall retain a third-party contractor to assist SEA in the monitoring and enforcement of mitigation measures on an as-needed basis until TRRC has completed project-related construction and for a period covering the first two years of railroad operations or for any oversight period the Board

may impose. TRRC shall be consulted to determine if the matter can be resolved without the need for any action on the part of the contractor and if any action by the third-party contractor is deemed warranted by SEA following such consultation, the third-party contractor shall submit for TRRC's approval a budget for the requested work. [TRRC III, new]

Page 4-70, lines 22-26

Mitigation Measure 17 (Reporting). TRRC shall submit to SEA ~~on~~ no less than every four months ~~a quarterly basis~~, beginning with the effective date of the Board's final decision in Tongue River III and continuing for the first two years of railroad operations, or for any other period that the Board may impose, reports documenting the status of implementation of the Board's final environmental mitigation conditions. [TRRC III, new]

Page 4-74, Line 8

Mitigation Measure 19 (Reclamation)

(2) **Restoration/Reclamation Plan** – TRRC shall follow the following procedures in its restoration and reclamation plan:

- (a) Commencement of reclamation as soon as practicable after construction ends, with the goal of rapidly reestablishing ground cover on disturbed soils that could support vegetation, with all cut and fill slopes mulched and seeded as they are completed. Twine used to hold bales of mulch together shall be of biodegradable material.
- (b) Avoidance of reclamation when soil moisture is high or ground is frozen.
- (c) Use of straw mats in the revegetation process to reduce erosion and to add carbon back into the soil system to promote the accumulation of soil organic matter.
- (d) Ripping and disking of soils prior to revegetation to prevent compaction of soils and to increase the ability of plant roots and water to penetrate the soil.
- (e) Analysis of site soil requirements and seasonal precipitation patterns to identify planting dates for optimal revegetation success.
- (f) Use of rapidly establishing plant species for thorough and rapid ground surface protection.
- (g) Retention of a reclamation specialist to determine specific procedures for reclamation on steep slopes or locations near waterways.

Page 4-74, lines 33-39 (and page 7-15, lines 16-20)

(3) **Revegetation Success Assurances** – To ensure revegetation success, TRRC shall implement the following measures:

- (a) Development of an inventory and documentation of pre-existing conditions.
- (b) The type and quantity of seed, fertilizer, and other soil amendments to be used shall be determined based on soil chemical and physical properties. TRRC shall use native species for revegetation, where possible, unless alternatives are approved, in advance of application, by the Task Force in accordance with the process set forth in Mitigation Measure 14. On BLM tracts, all seeds shall be from native species.

Species to be used for revegetation may include, but are not limited to:

- ~~w~~Western wheatgrass (*Pascopyrun smithii* (*Agropyron s.*))
- ~~g~~Green needlegrass (*Nasella viridula* (*Stipa v.*))
- ~~s~~ideoats grama (*Bouteloua curtipendula*)
- ~~H~~Little bluestem (*Schizachyrium scoparium*)
- ~~b~~lue grama (*Bouteloua gracilis*)
- Slender Wheatgrass (*Elymus trachycaulus*)
- Blue flax (*Linum perenne*-forb)
- Purple prairie clover (*Dalea lasiathera*-forb)
- Bluebunch wheatgrass (*Pseudoroegneria spicata*)

Thickspike wheatgrass may be substituted **only** when western wheatgrass is unavailable.

Page 4-77, lines 12-26

Mitigation Measure 21 (Noxious Weed Control). TRRC shall construct the rail line in compliance with county weed control plans for Rosebud and Big Horn counties, Montana. Except for the portion of the right-of-way described in Mitigation Measure 85 in and near the MCFH, TRRC, in consultation with local ranchers, the county extension agents, and the Task Force, shall develop a reasonable written Noxious Weed Control Program prior to commencing any construction of the rail line. The program shall include requiring construction methods that minimize the introduction and spread of noxious weeds, including the use of sterile ballast, washing of construction equipment prior to use to remove weed seed sources, and the use of weed-free seed straw, mulching, and hydroseeding materials. TRRC shall also minimize digging in areas where the rhizomes of rhizomatous weed species such as leafy spurge might be cut and spread throughout the site.

- (1) The noxious-weed-control program shall include a combination of mechanical and herbicide spray methods to control noxious weeds. TRRC shall focus on non-chemical treatments first and TRRC shall use mechanical removal of weeds near watercourses wherever feasible, depending upon time of year. Spray sequences shall be utilized to ensure that weed plants do not reach maturity.
- (2) For riparian corridors, if the noxious-weed-control program proves unsuccessful in eradicating certain weed species, specific methods shall be identified by the Task Force to target individual noxious weed plants.
- (3) TRRC shall keep and reference records of herbicide application dates to ensure that the noxious-weed-control program goals are fulfilled. TRRC shall submit a report of weed control activities to the Task Force annually during construction. In all cases, only trained, licensed personnel shall be involved in noxious-weed-control applications. The personnel who undertake the application of herbicides on the line shall apply herbicides according to the label specifications. The appropriate protective equipment shall be supplied to the personnel responsible

for application. [TRRC II, Vegetation Condition A.9.3.2(2), modified to provide additional clarity regarding the noxious weed control requirements]

Page 4-78, line 27

Mitigation Measure 22 (Wetland Permit). TRRC shall ~~adhere to the reasonable mitigation measures identified in the Conceptual~~ prepare a Detailed Habitat Mitigation Plan (a document prepared to determine the appropriate habitat mitigation). ~~or as otherwise imposed by the U.S. Corps of Engineers in any Section 404 permit(s) issued by the Corps for construction of the line.~~ TRRC shall adhere to all mitigation measures suggested in the Detailed Habitat Mitigation Plan as well as any measures imposed by the U.S. Corps of Engineers in any Section 404 permit(s) issued by the Corps for construction of the line. The Detailed Habitat Mitigation Plan (the Plan) shall be prepared during the permitting process and shall assure that adequate replacement of lost wetland functions and values occurs. The plan, which shall be approved by the appropriate agencies before project implementation, shall contain a statement of goals, a monitoring plan, long-term management/protection objectives and a commitment to conduct additional work, if required, to meet the goals of the plan [TRRC III, new].

Page 4-79, line 31

Mitigation Measure 24 (Biological Opinion). TRRC shall adhere to the terms and conditions of incidental take statements ~~mitigation conditions~~ set forth by the U.S. Fish and Wildlife Service in a Biological Opinion, issued on July 12th, 2006. *[TRRC III, new]*

Page 4-81, lines 32-39

State Species of Concern. There are ~~20~~ 34 state species of concern listed on MT NHP's Species of Concern List (2003a). There is potential habitat in the vicinity of the proposed Western Alignment and the approved Four Mile Creek Alternative for the following state listed species: sauger, Great Plains toad, plains spadefoot toad, northern leopard frog, snapping turtle, spiny softshell turtle, sagebrush lizard, greater short-horned lizard, western hognose snake, milk snake, American white pelican, bald eagle, northern goshawk, Baird's sparrow, Cassin's kingbird, dwarf shrew, Merriam's shrew, spotted bat, Townsend's big-eared bat, pallid bat, and meadow jumping mouse.

Page 4-83, lines 30-34

~~Surveys for sage and sharp-tailed grouse leks shall be conducted following the Montana Sage Grouse Conservation Plan of the Montana Sage Grouse Work Group. If a possible lek site is identified, observations shall be made between March 15 and June 15 to verify activity at each site. Surveys shall be conducted at dawn to listen for male activity at each lek and shall be completed at least five days apart.~~ According to Mitigation Measure 26, Aerial surveys for sage and sharp-tailed grouse leks shall be conducted within an area two miles from the proposed construction disturbance following the Sage Grouse Management Plan and Conservation Strategies in Montana – Final developed by the Montana Sage Grouse Work Group. If a possible lek site is identified, and property owners permit, observations shall be made between March 15 and June 15 to verify activity at each site. Surveys shall be conducted at dawn to listen for male activity at each lek and shall be completed at least five days apart.

Page 4-84, lines 22-24

Mitigation Measure 29 (Destruction of Habitat). Active habitats for state species such as nests, brooding locations, and migratory corridors, etc., shall not be destroyed during construction of the railroad.

Page 4-86-87

Mitigation Measure 31 (Compensation Program). TRRC shall include the following mitigation measures as part of final right-of-way negotiations with private landowners along the ROW:

- (1) ~~TRRC shall participate in the development of a reasonable compensation program for lost wildlife habitat along the rail line prior to beginning construction on any portion of the rail line. The goal of the compensation program shall be to ensure that there is no net decrease in wildlife habitat values resulting from the project. Habitat values of acreage lost shall be assessed using the U.S. Fish and Wildlife Service's Habitat Evaluation Procedure. TRRC shall be responsible for acquiring land (through purchase, conservation easements or other measures) and enhancing the wildlife habitat value on that land to achieve the no net loss goal, and developing and implementing a monitoring plan to evaluate success of enhancement measures. Monitoring shall continue through the oversight and reporting period described in Mitigation Measure 17. The process of valuing habitat loss, acquiring and enhancing new lands, and implementing the monitoring plan shall be done by TRRC with prior approval of the Task Force in accordance with the process set forth in Mitigation Measure 14. The process of valuing habitat loss for individual species or habitat types shall include an as needed analysis of potential "habitat fragmentation", i.e., assessment of the direct loss of wildlife habitat, reduction in the size of existing habitat patches, creation of more edge type habitat, and creation of barriers that block movement of wildlife between patches. An example of appropriate habitat compensation could include the purchase by TRRC of "cutoff" land parcels containing good wildlife habitat, and the donation of these lands to the Montana Department of Fish, Wildlife, and Parks for beneficial wildlife management. [TRRC I, Condition 10.1(1); TRRC II, Terrestrial Condition A.9.3(1), modified to clarify the goal of the compensation program]~~
- (12) If the landowner agrees and where practicable, TRRC shall construct ponds adjacent to the railroad grade, or use the railroad grade as a dam ~~where practicable~~. These ponds could include "dugout" type ponds and "bypass" ponds designed to be filled during high flows where appropriate. [TRRC II, Terrestrial Condition A.9.3(2)]. For the construction of ponds, the railroad embankment (berm) shall form one (high) side of a depression. In its development of options for wildlife passage across the railroad right-of-way, TRRC shall consider ponds as a possible obstruction passage. Ponds shall also include erosion control features where appropriate. [TRRC III, new]

(23) If adjacent landowners agree, TRRC shall provide public access, in appropriate locations, if any, along the rail line right-of-way. [*TRRC II, Terrestrial Condition A.9.3(3), modified to clarify that access would only be provided if the adjacent landowners agreed*]

(34) TRRC shall grant conservation easements along the rail line where appropriate. [*TRRC I, Condition 10.1(4); TRRC II, Terrestrial Condition A.9.3(4), modified by minor edits*]

Page 4-88, lines 42-43

~~Native grouse populations in the area have been depressed for several years. Construction activities in the vicinity of leks and nesting areas could affect local populations of grouse by interfering with reproduction and could reduce overall population numbers with increased hunting by construction workers. Greater sage grouse populations have declined in the southeastern Montana area for several years (Connelly, et al. 2000; Connelly, et al 2004). In addition, the range-wide decline of sharp-tailed grouse populations is attributed to conversion of native grassland and shrub/grass habitat to other land uses (Montana Partners in Flight 2000).~~

Page 4-89, lines 36-46.

~~Raptors. Several raptor species nest, hunt, or winter on or near the proposed Western Alignment and the approved Four Mile Creek Alternative. Red-tailed hawks, great-horned owls, and American kestrels commonly nest on or near the bottom of the valley. These and other nesting raptors could be temporarily displaced, and production of offspring could be affected by increased stress if the proposed Western Alignment or the approved Four Mile Creek Alternative is constructed. Some hunting and roosting habitat could also be removed and some prey species could be lost or displaced. Some raptor species could be displaced until construction is completed. This would be a temporary impact. Olson-Elliot Associates (1980a) found that raptor activity decreased with distance from the Tongue River Valley. Therefore, it is likely that impacts on raptors during the winter months and the spring nesting season would be lower for the approved Four Mile Creek Alternative than for the proposed Western Alignment. Several raptor species nest, hunt, or winter on or near the proposed Western Alignment and the approved Four Mile Creek Alternative. Red-tailed hawks, great-horned owls, and American kestrels commonly nest on or near the bottom of the valley. These and other nesting raptors could be temporarily displaced, and production of offspring could be affected by increased stress during the construction phase of either the proposed Western Alignment or the approved Four Mile Creek Alternative. Some hunting and roosting habitat could also be removed and some prey species could be lost or displaced. Individual birds could be permanently displaced. Olson-Elliot Associates found that raptor activity decreased with distance from the Tongue River Valley. Therefore, it is likely that impacts on raptors during the winter months and the spring nesting season would be lower for the approved Four Mile Creek Alternative than for the proposed Western Alignment.~~

Page 4-96, lines 39-43

Nest 02 Alternate was determined to be active according to the MT DFWP survey conducted in April 2005. This nest appears to have been built or modified by eagles and was occupied by red-tailed hawks in April 1999. It is about 0.75 miles from a public road, about 0.9 miles from a residence, and is adjacent to active ranching activities. It is about 0.8 miles from the proposed Western Alignment and 0.3 miles from the approved Four Mile Creek Alternative. ~~Nest 02 Alternate, which appears to have been built or modified by eagles but apparently has not been actively used by bald eagles and was occupied by red-tailed hawks in April 1999, is about 0.75 miles from a public road, about 0.9 miles from a residence, and is adjacent to active ranching activities. It is about 0.8 miles from the proposed Western Alignment and 0.3 miles from the approved Four Mile Creek Alternative.~~

Page 4-97, line 23

State Species of Concern. There are ~~20~~22 species of concern, as listed on MT NHP's Species of Concern List (2003a), for which potential habitat occurs in the vicinity of the proposed Western Alignment (as based on spatial distribution maps from MT NHP [2003b]).

Page 4-99, lines 25

Other Bird Species. For both alignments, other birds utilizing habitats for resting, nesting, and/or hunting on or adjacent to the ROW would likely be displaced from those areas during construction. A list of other bird species potentially present is included in the report "Fish and Wildlife Species Occurrence by Habitat, Tongue River Railroad Project Area" (Appendix B of this Final SEIS). Potential direct impacts to nesting birds are addressed in Mitigation Measures in Section 7. SEA does not consider impacts to these species to be significant for either alignment because the species can utilize other nearby areas. Therefore, no additional mitigation measures are proposed for these species.

Page 4-101, line 12-15

The rail line will need approximately 8 inches of ballast and 12 inches of sub-ballast material along the length of the railroad, except for river crossings. There are many ~~scoria~~ clinker sources along the proposed ROW, however, much of that clinker ~~scoria~~ is weathered and would be too soft for use as sub-ballast material.

Page 4-104, lines 1-6 (and page 7-24, lines 43-45)

According to Mitigation Measure 36, the SWPPP shall identify areas that have a high potential for soil erosion due to topography, slope characteristics, facility activities, and/or other factors. (Generally, areas with little or no vegetative cover, 0-25 percent on slopes greater than or equal to 15 percent, have a high potential for soil erosion.) To determine areas of high erosion potential, TRRC shall consult with the local office of the Natural Resource Conservation Service-County Natural Resource Conservation Service, research, as appropriate, published soil survey reports, and/or conduct soil/geologic studies

Page 4-107, line 23

Mitigation Measure 41 (Sediment Delivery). Prior to beginning any construction, TRRC shall assess the potential for construction and operation of the rail line to generate, transport and deliver sediments to a given body of water. Contributions of sediments shall be measured as “bedload,” or material that is transported along the bed of a stream rather than in suspension. Woman pebble counts (woman pebble is a methodology for sampling and categorizing substrate) may be used for sediment data. TRRC shall also conduct a pre-construction assessment that will include an evaluation of the potential in-stream effects of sediment delivery to a given water body and conformance with pending or completed TMDLs and associated water quality restoration plans. [TRRC III, new]

Page 4-107, Lines 30-32

Mitigation Measure 42 (Soil Survey).

Prior to any construction of this line, TRRC shall conduct a soil survey along the alignment, including a review of soil survey data from Big Horn and Rosebud counties and local conservation districts.

Page 4-114, line 10

Mitigation Measure 49 (Culverts). TRRC shall ensure that all culverts and other drainage structures installed at non-perennial stream crossings during construction of this line comply with the design criteria guidelines of the American Railway Engineering and Maintenance of Way Association, established in the year 2000. This means that at a minimum, culverts shall be designed to discharge a 25-year flood without static head at entrance and a 100-year flood using the available head at entrance, the head to two feet below base of rail, or the head depth of 1.5 times the culvert diameter/rise, whichever is less. Additionally, TRRC shall incorporate the culverts into the existing grade of the streambed to avoid, to the maximum extent possible, changing the character of the streambed and impacting migrating amphibians and reptiles. Open bottom culverts shall be used to the extent feasible. The final design of culvert sizing should be determined by the project engineer based on the best available on-site information [TRRC II, Hydrology and Water Quality Condition (4), modified to reflect current industry practice and include migrating species]

Table 4-22 – Tongue River Sediment Delivery after BMP Implementation Anticipated Annual Increase in Total Suspended Solids, Tongue River

Alignment	Estimated Soil Loss (tons/year)	Sediment Delivery Ratio	Increase in Sediment Load to River (tons/year)	Increase in Average TSS Concentrations (mg/L)	<u>Pre-BMP Sediment Delivery (Tons/Year)</u>	<u>BMP Sediment Delivery Effectiveness²</u>	<u>Post BMP Sediment Delivery (Tons/Year)</u>
Proposed Western Alignment	18,300 - 28,700	0.37	6,770 - 10,600	16 - 37	<u>6,770-10,600</u>	<u>0.3</u>	<u>4,700 - 7,400</u>
Four Mile Creek Alternative	14,600 - 23,800	0.25	3,650 - 6,000	8 - 21	<u>3,650-6,000</u>	<u>0.3</u>	<u>2,600 - 4,200</u>

Source: Mission Engineering

Notes: The data reflect the difficulty in determining the erodability of subsurface soils that would be exposed during construction, and represent best-case to worst-case scenarios. See Section 4.3.3, “Environmental Consequences – Soils and Geology,” for a discussion of soil erosion.

^a Four Mile Creek Alternative estimates are from the Tongue River II Draft EIS.

¹ Estimate of gross erosion from project; from Table 4-21. Assumes simultaneous construction along entire project and no BMPs.

² Assumes delivery of 70% of the pre-BMP sediment as per line 34, page 4-110. Conversely this assumes the BMPs are successful at capturing 30% of the pre-BMP total.

Page 110, line 12

Post Construction Sediment Loading – Tongue River

A calculation of post-construction, post-BMP sediment loading is presented in Table 4-22a. This estimate assumes total sediment loading prior to BMPs of between 3,650 and 10,600 tons per year. Assuming delivery of 70 percent of the pre-BMP sediment load (a 30 percent reduction in sediment), the estimates for post-construction, post-BMP sediment loads to the Tongue River range from 4,700 to 7,400 tons per year for the Western Alignment, to 2,600 to 4,200 for the Four Mile Creek Alternative. The 70 percent delivery estimate is based on a conservative interpretation of the 50 to 70 percent delivery estimate stated in line 34, page 4-110.

Page 4-114, lines 13 and 14

Based on the information available to date, SEA preliminarily concludes that imposition and ~~implementation of, if imposed and implemented,~~ this mitigation measure would ensure that the impacts resulting from the construction of culverts for either the proposed Western Alignment or the approved Four Mile Creek Alternative would not be significant.

Page 4-115, Line 41

In the event of a drought, TRRC could purchase water from several potential sources. One possible source of water is the Northern Cheyenne Tribe, whose water-purchase contract increased from 7,500 afy to 27,500 afy under the Northern Cheyenne–Montana Water Right Compact when dam repairs were completed (Jason Hoitman, MT DNRC, September, 2003). Another source of water could be the Tongue River Water Users Association. ~~Another source of water could be the Tongue River Water Users Association.~~

Page 4-118, lines 11-12

Both the proposed Western Alignment and the approved Four Mile Creek Alternative would traverse mostly undeveloped land. Neither alternative would traverse Native American reservation property. At its closest point, the Four Mile Creek Alternative is approximately four miles east of the Crow Indian Reservation boundary. The Western Alignment, at its closest point, is approximately nine miles east of the Crow Indian Reservation boundary. For both alignments, the primary cultural and paleontological resource issues would be related to the impacts of disturbing prehistoric, historic and traditional cultural resources from rail construction and operation.

Page 4-118, lines 33-35

Conclusion. The construction and operation of the proposed Western Alignment, like that of the approved Four Mile Creek Alternative, could affect ~~paleontological and~~ cultural resources located within the area. To determine the impact on ~~paleontological and~~ cultural resources, SEA identified ~~the range of paleontological and~~ cultural properties in the area that might be eligible for listing in the NRHP.

Pages 4-118, lines 40-48 and 4-119, lines 1-7

To ensure proper identification and treatment of cultural and paleontological resources from the construction and operation of either the proposed Western Alignment or the approved Four Mile Creek Alternative, SEA developed a PA for Tongue River III in consultation with ACHP, MT SHPO, BLM, the Corps, MT DNRC, USDA, the Northern Cheyenne Tribe, the Crow Tribe, and TRRC. The PA sets forth the detailed requirements of how the impacts associated with the construction and operation of either the proposed Western Alignment or the approved Four Mile Creek Alternative would be addressed, including impacts to ~~paleontological~~, architectural, historic, and cultural properties. The PA guides and regulates the procedures by which the identification and treatment of ~~paleontological and~~ cultural resources would occur. The PA includes detailed requirements for additional surveys of the entire rail line ROW from Miles City to Decker; identification and evaluation of ~~paleontological~~, prehistoric, historic, or traditional cultural sites or structures; development of a detailed Treatment Plan in consultation with the parties to the PA and the Native American community; and procedures for reviewing and addressing objections and/or disagreements. The PA developed for Tongue River III would replace the previous PA developed for Tongue River II, and would apply to construction of the entire rail line from Miles City to Decker. The PA has been completed and will be included in the Final SEIS in Appendix C.

Page 4-120, lines 22-26

Paleontological Resources Within the 200-foot ROW. No paleontological resources are known to exist in rocks or soils that would be disturbed by either the proposed Western Alignment or the Four Mile Creek Alternative. Construction of either alignment could result in potential impacts on currently unknown paleontological resources. ~~Paleontological localities would be identified during detailed pedestrian surveys of the alignment, as required by the PA that would be conducted prior to the start of construction of either alternative. If any paleontological resources are located during the surveys, mitigation measures would be developed in consultation with the BLM and TRRC in accordance with terms of the PA.~~ Mitigation Measure 90 would address the discovery of paleontological resources.

Page 4-125, lines 24-26

Paleontological Properties Outside the ROW but Within the 3,000-foot Corridor. No paleontological resources are known to exist in rocks or soils in the corridors outside the ROW of the proposed Western Alignment, as is also the case for the approved Four Mile Creek Alternative. Construction of either alignment could result in potential impacts on currently unknown paleontological resources. ~~The PA provides, however, that if any paleontological resources were located during future surveys, mitigation measures would be developed in consultation with BLM and TRRC.~~ The following mitigation measure would address the discovery of paleontological resources.

Page 4-127; line 41 Add “No effects to Paleontological resources are expected during operation and maintenance of the rail line due to the small amount of subsurface activities. If sub-surface activities are required and paleontological resources are

discovered, then SEA recommends that the Board impose Mitigation Measure 90 to address the discoveries:

Mitigation Measure 90 (Paleontological Resources). If significant paleontological resources are discovered during surface disturbing activities, all work that potentially would damage the resource shall cease, the area of concern shall be protected, and the Board shall be notified as soon as possible. Appropriate mitigation measures shall be developed by the Board and implemented as soon as possible. These mitigation measures could include, as appropriate, collection and curation of scientifically significant fossils, additional sampling, and/or monitoring of excavation.

Page 4-132, Lines 18-29

Mitigation Measure 55 (Memorandum of Agreement). As agreed to by TRRC and the Montana Department of Transportation (MDT), TRRC shall enter into a memorandum of agreement (MOA) with MDT evaluating project-related safety needs. The MOA shall establish duties and responsibilities of the parties relative to construction of the rail line, including sidings, and possible encroachment on interstate and non interstate facilities maintained by MDT. The MOA shall also include the evaluation of each crossing for safety needs and potential traffic problems during construction and operation, including passage of emergency vehicles. Based on these evaluations, the MOA will set forth specific safety measures, such as warning signal and devices, and appropriate measures to alleviate any traffic problems, such as grade separations. A construction traffic plan will also be prepared by TRRC for review and approval by MDT.

Page 4-134, Lines 30-47

Mitigation Measure 62 (Spill Prevention). TRRC shall develop, in cooperation with appropriate Federal, state, and local agencies, a plan to prevent spills of oil or other petroleum products (gasoline, diesel fuel, solvents), during construction, operation, and maintenance of this rail line.

TRRC's Spill Prevention Plan shall include measures pertaining to oil spills set forth in the mitigation plan in the Tongue River II DEIS. The plan developed by TRRC shall include conditions that shall be imposed on companies and contractors involved in construction of the Tongue River rail line. The plan shall provide emergency notification procedures, including a priority list of specific names and phone numbers of designated contacts (government and private) that are to be notified in case of events such as a fuel spill, range fire, or medical emergency during construction, operation and maintenance of the rail line. The following items shall be included in the plan:

- (1) Procedures for reporting a spill.
- (2) Definition of what constitutes a spill.
- (3) Methods of containing, recovering, and cleaning up a spill.

- (4) Preventive measures that will be employed to prevent ground water and surface water contamination.
- (5) BMPs that would apply to areas in and around rail yards to reduce the potential of ground water and surface water contamination.
- (6) A list of equipment needed to remediate a spill and its location.
- (7) A list of all governmental agencies and management personnel to be contacted and coordinated with, including but not limited to the following:
 - (a) Disaster and Emergency Services Division of the Department of Military Affairs, Helena. (This is the most important contact to develop a coordinated response.)
 - (b) Rural fire departments along the route.
 - (c) Local ambulance and emergency medical services, as well as air evacuation services in Billings and Sheridan.
 - (d) Montana Department of Environmental Quality, especially the Remediation Division.
 - (e) Montana Department of Fish, Wildlife, and Parks.
 - (f) Montana Department of Natural Resources and Conservation.
 - (g) Northern Cheyenne Tribe.
 - (h) Bureau of Land Management (BLM) or U.S. Fish and Wildlife Service. BLM would have fire suppression responsibilities on public land for fires handled by Type I Interagency Management Teams and Type II Geographic Area Teams.
 - (i) Other local agencies or groups that are identified by the agencies and entities above as key to disaster remediation.
- (8) Assurances that techniques and procedures to be employed in cleanup are the best practicable technology currently available.

[TRRC II, Safety Condition (8), which incorporates by reference Sections A.7.3.(1) a, A.7.3(2) a-i, and A.7.3(4), modified (1) to incorporate language of sections referred to and to clarify that the above measures apply to the entire rail line, and (2) to clarify roles of BLM and USFS.]

Pages 4-146-150

Tables 4-32 and 4-33 in the Draft SEIS incorrectly included both fugitive particulate emissions as well as combustion particulate emissions. Table 4-32 has been deleted and replaced with a new table:

Table 4-32 – Construction-period Fugitive Dust Emissions

Alignment	Emissions of PM10 in Tons/Mile/Year
Federal PSD Threshold	15.0
Proposed Western Alignment (17.3 miles)	13.3a/0.44b
Approved Four Mile Creek Alternative (29.4 miles)	10.06a/0.26b

Source: CH2MHill 2004.

Notes: PSD = prevention of significant deterioration.

a Includes PM emissions from diesel combustion in construction equipment.

b Includes PM emissions from constructed railroad, wind-blown dust from sailcars in transit, and PM emissions from diesel combustion in locomotive engines.

Table 4-32- Construction –Period Fugitive Dust Emissions (Uncontrolled)

	<u>PM10 Emission</u>
Federal PSD Threshold in Tons/Year ¹	<u>15.0</u>
	<u>Emissions in Tons/Mile/Year</u>
Proposed Western Alignment (17.3 miles)	<u>13.3</u>
Approved Four Mile Creek Alternative (29.4 miles)	<u>10.06</u>
	<u>Total Emissions Tons</u>
Proposed Western Alignment (17.3 miles)	<u>230.1</u>
Approved Four Mile Creek Alternative (29.4 miles)	<u>295.8</u>

Source: CH2MHill 2004.

¹ Used for comparison purposes and does not have regulatory significance in this proceeding.

Table 4-33 has been deleted and a new table has been added as follows:

Table 4-33 – Construction-period Combustion Emissions

	Emissions in Tons/Mile/Year				
	CO	NO_x	PM10	SO₂	VOC
Federal PSD Threshold in Tons/Year	100.0	40.0	15.0	40.0	40.0
Proposed Western Alignment (17.3 miles)	1.49	0.26	13.3a/0.44b	1.28	0.08
Approved Four Mile Creek Alternative (29.4 miles)	0.88	0.15	10.06a/0.26b	0.75	0.05

Source: CH2MHill 2004.

Notes: PSD = prevention of significant deterioration; CO = carbon monoxide; NO_x = nitrogen oxides; PM₁₀ = particulate matter less than 10 microns in size; SO₂ = sulfur dioxide; VOC = volatile organic compounds.

^a Includes PM emissions from diesel combustion in construction equipment.

^e Includes PM emissions from constructed railroad, wind-blown dust from sailcars in transit, and PM emissions from diesel combustion in locomotive engines.

Table 4-33- Construction-period Combustion Emissions

	CO	NO_x	PM₁₀	SO₂	VOC
	Federal PSD Threshold in Tons/Year ¹	<u>100.0</u>	<u>40.0</u>	<u>15.0</u>	<u>40.0</u>
	<u>Emissions in Tons/Mile/Year</u>				
Proposed Western Alignment (17.3 miles)	<u>1.49</u>	<u>0.26</u>	<u>0.44</u>	<u>1.28</u>	<u>0.08</u>
Approved Four Mile Creek	<u>0.88</u>	<u>0.15</u>	<u>0.26</u>	<u>0.75</u>	<u>0.05</u>

	<u>CO</u>	<u>NO_x</u>	<u>PM₁₀</u>	<u>SO₂</u>	<u>VOC</u>
Alternative (29.4 miles)					
	Total Emissions Tons				
Proposed Western Alignment (17.3 miles)	25.8	4.5	7.6	22.2	1.4
Approved Four Mile Creek Alternative (29.4 miles)	25.9	4.4	7.6	22.1	1.5

Source: CH2MHill 2004.

¹ Used for comparison purposes and does not have regulatory significance in this proceeding.

Tables 4-34 and 4-35 have been eliminated, as they were erroneously based on the addition of the emission rates in Tons/Mile/Year for the two affected counties in Table 4-36.

Table 4-34 – Fugitive Dust Emissions in the ROW of the Proposed Western Alignment and the Approved Four Mile Creek Alternative

	Emissions of PM₁₀ in Tons/Mile/Year
Proposed Western Alignment (17.3 miles)	1.4
Approved Four Mile Creek Alternative (29.4 miles)	1.8

Source: CH2MHill 2004.

Note: The area that could contribute to wind-blown dust is assumed to be ten percent of the total ROW.

Table 4-35 – Emissions from Operation of Locomotives by Alignment (Tons per Mile per Year as Compared to Federal PSD Thresholds)

Scenario	Emissions in Tons/Mile/Year				
	CO	NO_x	PM₁₀	SO₂	VOC
Federal PSD Threshold in Tons/Year	100.00	40.0	15.00	40.00	40.00
Miles City to Decker via the Proposed Western Alignment	5.0	22.9	1.4	4.1	1.4
Miles City to Decker via the Approved Four Mile Creek Alternative	6.9	31.2	1.8	5.6	2.0

Source: CH2MHill 2004.

Notes: PSD = prevention of significant deterioration; CO = carbon monoxide; NO_x = nitrogen oxides; PM₁₀ = particulate matter less than 10 microns in size; SO₂ = sulfur dioxide; VOC = volatile organic compounds.

Table 4-36, has been revised to clarify that the operational emissions data do not apply to the entire length of the line from Miles City to Decker.

Table 4-36. Operational Emissions by County (tons per mile per year)

	Emissions in Tons/Mile/Year				
	CO	NO _x	PM ₁₀	SO ₂	VOC
Rosebud County					
Miles City to Decker via the <u>Western Alignment</u>	1.1	5.0	0.4	0.9	0.3
Miles City to Decker via the <u>Four-Mile Creek Alternative</u>	2.1	9.5	0.6	1.7	0.6
<i>Difference</i>	-1.0	-4.5	-0.2	-0.8	-0.3
Bighorn County					
Miles City to Decker via the <u>Western Alignment</u>	3.9	17.8	1.0	3.2	1.1
Miles City to Decker via the <u>Four-Mile Creek Alternative</u>	4.8	21.7	1.2	3.9	1.4
<i>Difference</i>	-0.9	-3.9	-0.2	-0.7	-0.3

Source: CH2MHill 2004.

Notes: CO = carbon monoxide; NO_x = nitrogen oxides; PM₁₀ = particulate matter less than 10 microns in size; SO₂ = sulfur dioxide; VOC = volatile organic compounds.

Page 4-148, Line 19

Wind-blown Dust. Devegetation in either ROW would result in exposed soils that could cause an increase in particulate emissions. When estimating wind-blown dust, SEA conservatively estimated that approximately ten percent of either ROW would have exposed soils during operation. ~~Table 4-34 compares~~ The data on emissions in Table 4-36 include the amounts of fugitive dust emissions that would be generated from the ROW during operation of both the proposed Western Alignment and the approved Four Mile Creek Alternative. To estimate the amount of fugitive dust, SEA's analysis utilized July 1998 EPA emission factors, which estimate volumes of fugitive dust created by operating locomotives.

Page 4-149, Line 35

SEA's analysis determined that the approved Four Mile Creek Alternative would result in a higher level of annual emissions, because it has steeper grades that require more fuel use, and because it is longer than the proposed Western Alignment. Nevertheless, SEA preliminarily concludes that operation-related combustion emissions are well under national standards for both the proposed Western Alignment and the approved Four Mile Creek Alternative, and that neither would have significant impacts on ambient air quality. The Prevention of Significant Deterioration (PSD) thresholds are used for comparison purposes and do not have regulatory significance in this application.

Page 4-150, Line 36

As shown in the table above, operation of the proposed Western Alignment would result in fewer emissions than the approved Four Mile Creek Alternative for each criteria pollutant. ~~When compared to the EPA's project significance thresholds, it is apparent that neither alternative exceeds the 100 tons per year definition that could trigger extensive analysis of NAAQS, PSD increments, air quality related values, visibility, and deposition. Because the emissions of all pollutants would be less for the proposed~~

Western Alignment than for the approved Four-Mile Creek Alternative, comparison with EPA's project significance threshold of 100-tons-per-year, which triggers analysis of NAAQS, PSD increments, AQRVs, visibility, and deposition, is not required.

Page 4-160, Line 30

Based on this study, and information regarding the Boysen and Glendo Dams, SEA preliminarily concludes that the operation of trains along the proposed Western Alignment, which, though nearer than the approved Four Mile Creek Alternative, still would be over ~~500~~ 5,000 feet away, would not affect the structural stability of the Tongue River Reservoir Dam.

Chapter 5

Page 5-22, Line 9

Mitigation measures imposed by the ICC in Tongue River I and adopted in Tongue River II require TRRC to equip all at-grade crossings with warning signs and devices deemed appropriate under the MDOT Railroad Crossing Protection Policy. SEA preliminarily recommends that the Mitigation Measure adopted by the Board in Tongue River II be updated to reflect current Montana regulations and that all of this mitigation be applied to the construction and operation of the entire rail line (Tongue River I, Tongue River II, and Tongue River III) from Miles City to Decker. (See Mitigation Measure 55 in Chapter 7, "Mitigation Measures Applicable to the Entire Rail Line from Miles City to Decker.") SEA believes that, with imposition of this mitigation measure, no new significant environmental impacts related to at-grade crossings would result from TRRC's proposed Tongue River I and Tongue River II realignment.

Page 5-26, Line 36

As previously noted, 12 new residences have been constructed since 1985 within one-half mile of the proposed Tongue River I realignment. These 12 residences are listed as sites 1-12 below. Site one is the northern most residence shown on Figure 5-4 and site 12 is the southern most residence shown on Figure 5-4.

The construction of the 12 new residences in the Tongue River I study area introduces new people (or viewers) into the study area who were not considered at the time of the previous environmental document. The visibility of the proposed rail line from each of the new residences is briefly described below.

Chapter 6

Pages 6-4, lines 47 & 48 and 6-5, lines 1-5

The Spring Creek Coal Company (SCCC) has been issued a coal lease from the BLM for ~~filed an application with BLM to lease~~ a 150-acre tract of land containing an estimated 19.8 million tons of Federally-owned coal, and mining has been underway in the new lease area since the lease was issued in 1991. SCCC has also been issued a coal lease for a filed an application with MT DNRC to lease a 479-acre tract containing an estimated 62.1 million tons of coal.

Page 6-7, Line 46

The Hardin Plant is being developed by Centennial Energy Resources, a subsidiary of Montana Dakota Utility Resources Group in Bismarck, ND. Centennial Resources is proposing the construction of a 115-megawatt, coal-fired facility adjacent to an existing transmission substation while the plant is located in MAQCR - Region 140, it is approximately ~~60~~ 30 miles from the proposed rail line and represents the closest reasonably foreseeable power project to the proposed action. Representatives from Centennial Energy indicate construction of the plant has begun and it is expected to be operating commercially by late 2005.

Page 6-8, line 4

Table 6-1 – Planned Power Plants in Montana and Wyoming

Project Name & Location	Owner-Developer	Megawatts (MW) Fuel Type	MAQCR^a	Status
Montana First Megawatt Plant, Great Falls, Montana	Northwestern Energy Corp.	240 MW: Two 75 MW Natural gas; One 90 MW Steam	141	Construction suspended.
Hardin Generator Project, Hardin, Montana	MDU Resources Group, Centennial Power	113 MW: Coal IGCC	140	Permit received from MDEQ. Construction began in 2004.
<u>Southern Montana Generation and Transmission Project. Great Falls, Montana.</u>	<u>Southern Montana Generation and Transmission Cooperative</u>	<u>250 MW: Coal-fired</u>	<u>141</u>	<u>EIS currently being prepared.</u>
Roundup Power Project, Roundup, Montana	Bull Mountain Development Co.	780 MW: Coal-fired	140	Permit received from MDEQ. Decision under appeal. Commercial service target date for first power unit: March 2006.
Basin Creek Power, Butte, Montana	Basin Creek Power Services LLC	48 MW: Gas-fired	142	Permit received from MDEQ. Construction financing underway.
Two Elk, Gillette, WY	North American Power Group	280 MW: Coal-fired	NA	Some permit approval. Status uncertain.
Oregon Trail,	Buffalo Power	1100 MW:	NA	Project viability

Project Name & Location	Owner-Developer	Megawatts (MW) Fuel Type	MAQCR^a	Status
Glenrock, WY	Co.	Coal-bed methane		uncertain. Estimated plant start date: early 2006
Wygen #2, Gillette, Wyoming	Black Hills Corp.	500 MW: Coal	NA	Project on hold.
Middle Bear, SPRB, Gillette, Wyoming	North American Power Group	500 MW: Coal-fired	NA	Project cancelled.

Note: ^a MAQCR = Montana Air Quality Control Region

Page 6-12, line 33

~~SEA has not identified any reasonably foreseeable projects within the ROW of the proposed Western Alignment that would also impact land use.~~

Page 6-13, line 35

Potential impacts would occur generally within and abutting the proposed rail line ROW. ~~The lack of reasonably foreseeable projects within and abutting the proposed rail line ROW results in the absence of cumulative biological resource impacts. SEA has determined that the Powder River Gas (PRG)-Coal Creek CBM project area overlaps with the ROW for the proposed Western Alignment (as shown on Figure A-81 in Appendix A). However, the two projects would not be constructed simultaneously. The PRG project would be completed within 6 months after project approval, which would be in advance of a final decision regarding the proposed Western Alignment route and any construction associated with the Tongue River railroad. Because impacts from the two actions would not occur in the same area at the same time, no cumulative impacts are anticipated to occur from the Tongue River railroad and the PRG project.~~

Page 6-13, line 43

Construction and Operations Impacts. Some disruption to wildlife, including big game migration, upland bird activity, and raptor activity, is expected to occur during CBM gas-well construction. These impacts are described in the BLM EIS as localized and temporary in nature. The impacts associated with the proposed rail line include the removal of vegetation and habitat and increased sedimentation, increased potential for toxic spills, and the loss of floodplain. CBM gas-well construction and proposed rail line construction could result in cumulative effects depending on the timing and spatial relationship of the two activities. ~~; however, these projects would not necessarily occur immediately adjacent to each other and construction-related impacts likely would not impact the identical habitats or species. Thus, SEA concludes that the known occurring species, including threatened or endangered species, would not be adversely impacted by the TRRC in conjunction with CBM gas wells. Cumulative impacts could occur if~~

construction of CBM gas wells was to take place within the railroad ROW at the same time as rail line construction. SEA has determined that the Powder River Gas (PRG)-Coal Creek CBM project area overlaps with the ROW for the proposed Western Alignment (as shown on Figure A-81 in Appendix A). However, the two projects would not be constructed simultaneously. The PRG project would be completed within 6 months after project approval, which would be in advance of a final decision regarding the proposed Western Alignment route and any construction associated with the Tongue River railroad. Because impacts from the two actions would not occur in the same area at the same time, no cumulative impacts are anticipated to occur from the Tongue River railroad and the PRG project.

Page 6-14, line 23

~~Cumulative impacts to soil and geologic resources would occur in the presence of other projects being simultaneously constructed in close proximity to the proposed TRRC construction. SEA did not identify any reasonably foreseeable projects that would contribute to soil and geologic impacts and concludes that no cumulative effects would occur.~~ Based on coordination with the BLM in the spring of 2005, SEA determined that the ROW for the proposed Western Alignment would overlap with the Powder River Gas-Coal Creek CBM project area.

Page 6-14, line 27

Construction Impacts. Temporary impacts on soils and geology would result from the construction of the proposed rail line. These could include soil erosion, changes in the physical characteristics of the soil, changes to biological activity in the soil, effects from exposing saline and sodic soils, and slumping. SEA examined reasonably foreseeable actions that could potentially create cumulative impacts to soils and geology, including CBM development. The BLM EIS states that impacts to soils would occur from the CBM construction sites and from unpaved access roads used for CBM development, construction. ~~The and the that construction of CBM gas wells will disrupt soils in the immediate vicinity of well pads. but these wells are not foreseeable within the TRRC ROW or adjacent to the line. SEA believes that it is not reasonable to assume that CBM gas well development within the project area would be directly or indirectly impacted by the proposed rail line.~~ Due to the overlap of the ROW for the proposed Western Alignment and the Powder River Gas-Coal Creek CBM project area, cumulative impacts to soils and geology could occur if rail construction and CBM well construction were to occur in close proximity to each other within the same time frame. Based on SEA's review of the project-specific environmental analyses completed for the Powder River Gas-Coal Creek project, construction would be completed within 6 months of (CBM) project approval, which would be in advance of a final decision regarding the proposed Western Alignment route and any construction associated with the Tongue River railroad. Therefore, the construction of the railroad would not occur simultaneously with such activities. Because impacts from the two actions would not occur in the same area at the same time, no cumulative impacts would occur.

Page 6-14, line 39

Operational impacts. Impacts from the proposed Western Alignment could include soil erosion and slumping. ~~No reasonably foreseeable projects would contribute to impacts on soil and geology while the proposed rail line is operational.~~ Impacts related to CBM development would be limited to the construction period when roads and wells would be constructed. Therefore, SEA concludes that CBM operation would not have cumulative impacts in combination with the Tongue River railroad during the operation period. ~~No other reasonably foreseeable projects would contribute to impacts on soil and geology while the proposed rail line is operational~~

Page 6-15, line 12

These impacts are not considered significant, and while CBM gas wells could be constructed under the PRG-Coal Creek project in the area identified as ROW for the Tongue River railroad project, the timing of well construction is such that cumulative impacts would not occur. The PRG-Coal Creek exploration project would be completed within 6 months after project approval, which would be in advance of a final decision regarding the proposed Western Alignment route and any construction associated with the Tongue River railroad. Therefore, impacts from the two actions would not occur in the same area at the same time. ~~and are not expected to occur adjacent to the proposed rail line.~~

Page 6-15, Line 25

Construction Impacts. The proposed rail line in conjunction with CBM gas wells could result in cumulative effects on water quality if construction of these projects occurred simultaneously and in close proximity to each other, whether the proposed Western Alignment or approved Four Mile Creek Alternative is built. Simultaneous construction of both the proposed rail line and CBM gas wells is not considered likely, where CBM gas wells would be constructed adjacent to the TRRC and cause increased sediment loadings into the Tongue River. CBM gas wells are constructed on well pads that must have vegetative buffers and seeded ROW. Although CBM rights-of way may not be vegetated for several years ~~As a result,~~ SEA does not believe construction-period cumulative effects on Tongue River surface water quality would be significant or adverse due to the fact that gas well construction within the rail line ROW is not likely to occur simultaneously with rail construction activities. Based on SEA's review of the project-specific environmental analyses completed for the Powder River Gas-Coal Creek project, construction would be completed within 6 months of (CBM) project approval, which would be in advance of a final decision regarding the proposed Western Alignment route and any construction associated with the Tongue River railroad. Therefore, the construction of the railroad would not occur simultaneously with such activities. Because impacts from the two actions would not occur in the same area at the same time, no cumulative impacts would occur.

Page 6-17, Line 3

~~No reasonably foreseeable projects were identified within this area of potential impact that would contribute to the degradation or loss of these resources. SEA concludes that the no cumulative impacts to cultural and paleontological resources would occur as a result of the proposed Western Alignment.~~ According to a BLM map (dated April 2005)

of oil and gas fields in the area, the ROW for the proposed Western Alignment would overlap with the Powder River Gas-Coal Creek Coal Bed Methane project area. As a result, this proposal is a reasonably foreseeable project that could contribute to the degradation or loss of these resources if proper mitigation measures are not implemented. However, because BLM requires that CBM-gas well development plans include a cultural resource survey, SHPO coordination, and tribal consultation, SEA concludes that the Powder River Gas-Coal Creek proposal, by itself or in combination with the proposed Western Alignment, would not result in cumulative adverse impacts on cultural or paleontological resources.

Page 6-17, Line 12

SEA has determined the project area for Powder River Gas-Coal Creek overlaps with the proposed rail line ROW and the 3,000 foot corridor surveyed for the existence of cultural resources. ~~did not identify any other projects within the proposed rail ROW or 3,000 foot corridor, therefore, no cumulative cultural resources impacts are expected to occur.~~ However, because BLM requires that CBM gas-well development plans include a cultural resource survey, SHPO coordination, and tribal consultation, impacts would be mitigated and cumulative impacts, in combination with the Tongue River rail line, would not occur.

Page 6-17, Line 17

Operations impacts from the TRRC would potentially include vibration and visual impacts associated with train operations. ~~No reasonably foreseeable projects would contribute to either vibration or visual intrusions upon cultural, paleontological or historical properties.~~ Operation of CBM wells associated with the Powder River Gas-Coal Creek project would occur with the Tongue River ROW, which could result in cumulative visual impacts to cultural, paleontological or historical resources. However, cultural resource surveys, SHPO coordination, and tribal consultation required under CBM development would ensure that impacts do not occur. As a result, it is not expected that CBM well operation would contribute to any cumulative vibration or visual intrusions upon cultural, paleontological or historical properties. SEA did not identify any other reasonably foreseeable projects that would contribute to such impacts.

Pages 6-22, Line 38

Operations-related cumulative effects on visibility and haze could occur as the result of rail operations, CBM gas-well operations, and mining activities. Visibility and haze are a recent concern where air pollution from various coal-related industries in the Montana/Wyoming area, including emissions from locomotives hauling coal, have begun to affect Class I areas.¹⁰ ~~With regard to Tongue River I, Tongue River II, and Tongue River III, however, air pollutants generated by operation of locomotives over the entire rail line (see Table 4-40) would be substantially below all EPA air quality thresholds that would trigger the need to do a detailed visibility analysis.~~ Because the emissions of all pollutants decrease for the proposed Western Alignment in comparison to the approved Four-Mile Creek Alternative, comparison with EPA's project significance threshold of 100-tons-per-year which triggers analysis of NAAQS, PSD increments, AQRVs, visibility, and deposition, is not required. EPA defines the prevention of significant deterioration (PSD) threshold for NO_x at 40 tons per year. The operation of trains over TRRC's rail line via the proposed Western Alignment would generate 13.9 tons per year. (See Chapter 4, Section 4.3.7, "Environmental Consequences – Air Quality.")

Page 6-23, lines 3 and 4

The operation of trains over TRRC's rail line via the proposed Western Alignment would generate ~~13.9~~ 22.9 tons of NO_x per year.

Page 6-23 lines 44-48 and page 6-24, lines 1-5

Conclusions. SEA is proposing mitigation to reduce the contribution of the entire proposed rail line via either the proposed Western Alignment or the approved Four Mile Creek Alternative on visibility degradation. These mitigation measures, identified in Chapter 4, Section 4.3.7, "Environmental Consequences – Air Quality," would minimize construction and operation impacts on visibility. These measures include revegetation, the use of dust suppressants, and BMPs, ~~and additional air quality modeling,~~ and are expected to result in visibility values that comply with Class I standards. The implementation of these mitigation measures in conjunction with the mitigation measures for CBM gas-well development imposed by BLM would ensure that no adverse cumulative effects to regional visibility and haze would occur.

Page 6-24 line 12

Cumulative effects would be considered for projects within the ROW or adjacent to the proposed rail line. The Powder River Gas-Coal Creek CBM project area overlaps with the Tongue River ROW ~~SEA did not identify any reasonably foreseeable projects that would contribute to the noise environment or result in vibration from operational activities.~~ Based on SEA's review of the project-specific environmental analyses completed for the Powder River Gas-Coal Creek project, construction would be completed within 6 months of (CBM) project approval, which would be in advance of a final decision regarding the proposed Western Alignment route and any construction associated with the Tongue River railroad. Therefore, the construction of the railroad would not occur simultaneously with such activities. Because impacts from the two

actions would not occur in the same area at the same time, no cumulative impacts would occur.

Page 6-25, Line 44

~~SEA did not identify any reasonably foreseeable projects that would, with the proposed Western Alignment, impact recreation resources.~~ SEA identified the Powder River Gas-Coal Creek CBM project as a project that could result in cumulative impacts in combination with the proposed Western Alignment.

Page 6-26, Line 7

~~No other reasonably foreseeable projects were identified that would potentially impact recreation resources.~~ SEA has determined that the Powder River Gas-Coal Creek CBM project area overlaps with the Tongue River ROW. Based on SEA's review of the project-specific environmental analyses completed for the Powder River Gas-Coal Creek project, construction would be completed within 6 months of (CBM) project approval, which would be in advance of a final decision regarding the proposed Western Alignment route and any construction associated with the Tongue River railroad. Therefore, the construction of the railroad would not occur simultaneously with such activities. Because impacts from the two actions would not occur in the same area at the same time, no cumulative impacts would occur.

Page 6-26, Line 16

~~Due to a lack of other reasonably foreseeable projects in the region that would potentially impact these resources, non-~~ No adverse cumulative impacts are expected to occur to recreation resources as a result of the proposed rail line construction and operation in conjunction with other reasonably foreseeable actions.

Chapter 7

Page 7-6, line 22

FWP reserves the right to only grant an easement when all FWP concerns and studies provide for adequate information to determine if an easement is appropriate.

Page 7-13, line 23

Mitigation Measure 14 (Task Force). Those agencies who have agreed to participate on the Task Force include the Board, Montana Department of Fish, Wildlife and Parks (MT DFWP), Montana Department of Natural Resources and Conservation (MT DNRC), United States Fish and Wildlife Service (USFWS), Bureau of Land Management (BLM), and United States Corps of Engineers (Corps). TRRC has also agreed to participate. The Board will act as the lead agency to coordinate the Task Force. Each participating agency, as well as TRRC, shall designate representative(s) to work with the Task Force. EPA shall be included on the mailing list for written reports and findings circulated by the Task Force and the Task Force shall inform EPA of critical issues related to its jurisdiction.

Page 7-13, Line 41

Mitigation Measure 16 (Third-party Contractor). TRRC shall retain a third-party contractor to assist SEA in the monitoring and enforcement of mitigation measures on an as-needed basis until TRRC has completed project-related construction and for a period covering the first two years of railroad operations or for any oversight period the Board may impose. TRRC shall be consulted to determine if the matter can be resolved without the need for any action on the part of the contractor and if any action by the third-party contractor is deemed warranted by SEA following such consultation, the third-party contractor shall submit for TRRC's approval a budget for the requested work. [TRRC III, new]

Page 7-13, lines 43-47

Mitigation Measure 17 (Reporting). TRRC shall submit to SEA ~~on~~ no less than every four months ~~a quarterly basis~~, beginning with the effective date of the Board's final decision in Tongue River III and continuing for the first two years of railroad operations, or for any other period that the Board may impose, reports documenting the status of implementation of the Board's final environmental mitigation conditions. [TRRC III, new]

Page 7-14, line 36

(2) **Restoration/Reclamation Plan** – TRRC shall follow the following procedures in its restoration and reclamation plan:

- (a) Commencement of reclamation as soon as practicable after construction ends, with the goal of rapidly reestablishing ground cover on disturbed soils that could support vegetation, with all cut and fill slopes mulched and seeded as they are completed. Twine used to hold bales of mulch together shall be of biodegradable material.
- (b) Avoidance of reclamation when soil moisture is high or ground is frozen.
- (c) Use of straw mats in the revegetation process to reduce erosion and to add carbon back into the soil system to promote the accumulation of soil organic matter.
- (d) Ripping and disking of soils prior to revegetation to prevent compaction of soils and to increase the ability of plant roots and water to penetrate the soil.
- (e) Analysis of site soil requirements and seasonal precipitation patterns to identify planting dates for optimal revegetation success.
- (f) Use of rapidly establishing plant species for thorough and rapid ground surface protection.
- (g) Retention of a reclamation specialist to determine specific procedures for reclamation on steep slopes or locations near waterways.

Page 7-15, lines 16-20

(3) **Revegetation Success Assurances** – To ensure revegetation success, TRRC shall implement the following measures:

- (a) Development of an inventory and documentation of pre-existing conditions.
- (b) The type and quantity of seed, fertilizer, and other soil amendments to be used shall be determined based on soil chemical and physical properties. TRRC

shall use native species for revegetation, where possible, unless alternatives are approved, in advance of application, by the Task Force in accordance with the process set forth in Mitigation Measure 14. On BLM tracts, all seeds shall be from native species.

Species to be used for revegetation may include, but are not limited to:

- ~~w~~Western wheatgrass (*Pascopyrun smithii* (*Agropyron s.*))
- ~~g~~Green needlegrass (*Nasella viridula* (*Stipa v.*))
- ~~s~~ideoats grama (*Bouteloua curtipendula*)
- ~~l~~ittle bluestem (*Schizachyrium scoparium*)
- ~~b~~lue grama (*Bouteloua gracilis*)
- Slender Wheatgrass (*Elymus trachycaulus*)
- Blue flax (*Linum perenne*-forb)
- Purple prairie clover (*Dalea lasiathera*-forb)
- Bluebunch wheatgrass (*Pseudoroegneria spicata*)

Thickspike wheatgrass may be substituted **only** when western wheatgrass is unavailable.

Page 7-17, lines 17-31

Mitigation Measure 21 (Noxious Weed Control). TRRC shall construct the rail line in compliance with county weed control plans for Rosebud and Big Horn counties, Montana. Except for the portion of the right-of-way described in Mitigation Measure 85 in and near the MCFH, TRRC, in consultation with local ranchers, the county extension agents, and the Task Force, shall develop a reasonable written Noxious Weed Control Program prior to commencing any construction of the rail line. The program shall include requiring construction methods that minimize the introduction and spread of noxious weeds, including the use of sterile ballast, washing of construction equipment to remove weed seed sources, and the use of weed-free seed straw, mulching, and hydroseeding materials. TRRC shall also minimize digging in areas where the rhizomes of rhizomatous weed species such as leafy spurge might be cut and spread throughout the site.

- (1) The noxious-weed-control program shall include a combination of mechanical and herbicide spray methods to control noxious weeds. TRRC shall focus on non-chemical treatments first and TRRC shall use mechanical removal of weeds near watercourses wherever feasible, depending upon time of year. Spray sequences shall be utilized to ensure that weed plants do not reach maturity.
- (2) For riparian corridors, if the noxious-weed-control program proves unsuccessful in eradicating certain weed species, specific methods would be identified by the Task Force to target individual noxious weed plants.
- (3) TRRC shall keep and reference records of herbicide application dates to ensure that the noxious-weed-control program goals are fulfilled. TRRC shall submit a report of weed control activities to the Task Force annually during construction. In all cases, only trained, licensed personnel shall be involved in noxious-weed-

control applications and shall apply herbicides according to the label specifications. The appropriate protective equipment shall be supplied to the personnel responsible for application. [TRRC II, Vegetation Condition A.9.3.2(2), modified to provide additional clarity regarding the noxious weed control requirements]

Page 7-17, line 33

Mitigation Measure 22 (Wetland Permit). TRRC shall finalize and adhere to the reasonable-mitigation measures identified in the Conceptual Habitat Mitigation Plan (a document prepared to determine the appropriate habitat mitigation) as otherwise imposed by the U.S. Corps of Engineers in any Section 404 permit(s) issued by the Corps for construction of the line. A Detailed Habitat Mitigation Plan (the Plan) shall be prepared during the permitting process to assure that adequate replacement of lost wetland functions and values occurs. The plan, which shall be approved by be approved by the appropriate agencies before project implementation, shall contain a statement of goals, a monitoring plan, long-term management/protection objectives and a commitment to conduct additional work, if required, to meet the goals of the plan [TRRC III, new].

Page 7-17, line 45

Mitigation Measure 24 (Biological Opinion). TRRC shall adhere to the terms and conditions of incidental take statements-mitigation conditions set forth by the U.S. Fish and Wildlife Service in a Biological Opinion, issued on July 12th, 2006. *[TRRC III, new]*

Page 7-18, line 16

Mitigation Measure 26 (Data Reconnaissance). Prior to the beginning of construction of each segment and once full access to the site of the railroad right-of-way is obtained, TRRC shall conduct aerial and ground-level surveys, as appropriate. Black-tailed prairie dog surveys shall be conducted to determine if construction of the line will traverse any additional prairie dog colonies. The surveys shall also determine the existence of black-footed ferrets. If black-footed ferrets are discovered, the Montana Department of Fish, Wildlife, and Parks shall be notified. Based on the surveys, TRRC shall develop appropriate means to mitigate the effects of construction and operation of the line on the black-tailed prairie dog and the black-footed ferrets for approval by the Task Force in accordance with the process set forth in Mitigation Measure 14. Regardless of the timing of construction, once full access to the site of the railroad right-of-way is obtained, TRRC shall survey the three black-tailed prairie dog colonies which will be traversed by the proposed railroad but are located on private properties and were not accessible due to landowner issues at the time the BA was prepared, for black-footed ferret occupancy. If a black-footed ferret or its sign is found during this survey, Section 7 Consultation shall be re-initiated with USFWS.

Page 7-20, line 18

Mitigation Measure 29 (Destruction of Habitat). Active habitats for state species such as nests, brooding locations, and migratory corridors, etc., shall not be destroyed during construction of the railroad.

Mitigation Measure 31 (Compensation Program). TRRC shall include the following mitigation measures as part of final right-of-way negotiations with private landowners along the ROW:

- ~~(1) TRRC shall participate in the development of a reasonable compensation program for lost wildlife habitat along the rail line prior to beginning construction on any portion of the rail line. The goal of the compensation program shall be to ensure that there is no net decrease in wildlife habitat values resulting from the project. Habitat values of acreage lost shall be assessed using the U.S. Fish and Wildlife Service's Habitat Evaluation Procedure. TRRC shall be responsible for acquiring land (through purchase, conservation easements or other measures) and enhancing the wildlife habitat value on that land to achieve the no net loss goal, and developing and implementing a monitoring plan to evaluate success of enhancement measures. Monitoring shall continue through the oversight and reporting period described in Mitigation Measure 17. The process of valuing habitat loss, acquiring and enhancing new lands, and implementing the monitoring plan shall be done by TRRC with prior approval of the Task Force in accordance with the process set forth in Mitigation Measure 14. The process of valuing habitat loss for individual species or habitat types shall include an as needed analysis of potential "habitat fragmentation", i.e., assessment of the direct loss of wildlife habitat, reduction in the size of existing habitat patches, creation of more edge type habitat, and creation of barriers that block movement of wildlife between patches. An example of appropriate habitat compensation could include the purchase by TRRC of "cutoff" land parcels containing good wildlife habitat, and the donation of these lands to the Montana Department of Fish, Wildlife, and Parks for beneficial wildlife management. *[TRRC I, Condition 10.1(1); TRRC II, Terrestrial Condition A.9.3(1), modified to clarify the goal of the compensation program]*~~
- (12) If the landowner agrees and where practicable, TRRC shall construct ponds adjacent to the railroad grade, or use the railroad grade as a dam ~~where practicable~~. These ponds could include "dugout" type ponds and "bypass" ponds designed to be filled during high flows where appropriate. *[TRRC II, Terrestrial Condition A.9.3(2)]*. For the construction of ponds, the railroad embankment (berm) shall form one (high) side of a depression. In its development of options for wildlife passage across the railroad right-of-way, TRRC shall consider ponds as a possible obstruction passage. Ponds shall also include erosion control features where appropriate. *[TRRC III, new]*
- (23) If adjacent landowners agree, TRRC shall provide public access, in appropriate locations, if any, along the rail line right-of-way. *[TRRC II, Terrestrial Condition A.9.3(3), modified to clarify that access would only be provided if the adjacent landowners agreed]*

- (34) TRRC shall grant conservation easements along the rail line where appropriate. *[TRRC I, Condition 10.1(4); TRRC II, Terrestrial Condition A.9.3(4), modified by minor edits]*

Page 7-25, line 44

Mitigation Measure 41 (Sediment Delivery). Prior to beginning construction, TRRC shall assess the potential for construction and operation of the rail line to generate, transport and deliver sediments to a given body of water. Contributions of sediments shall be measured as “bedload,” or material that is transported along the bed of a stream rather than in suspension. Woman pebble counts (woman pebble is a methodology for sampling and categorizing substrate) may be used for sediment data. TRRC shall also conduct a pre-construction assessment that will include an evaluation of the potential in-stream effects of sediment delivery to a given water body and conformance with pending or completed TMDLs and associated water quality restoration plans. [TRRC III, new]

Page 7-26, line 6

Mitigation Measure 42 (Soil Survey). Prior to any construction of this line, TRRC shall conduct a soil survey along the alignment, including a review of soil survey data from Big Horn and Rosebud counties and local conservation districts.

Page 7-27, line 12

Mitigation Measure 49 (Culverts). TRRC shall ensure that all culverts and other drainage structures installed at non-perennial stream crossings during construction of this line comply with the design criteria guidelines of the American Railway Engineering and Maintenance of Way Association, established in the year 2000. This means that at a minimum, culverts shall be designed to discharge a 25-year flood without static head at entrance and a 100-year flood using the available head at entrance, the head to two feet below base of rail, or the head depth of 1.5 times the culvert diameter/rise, whichever is less. Additionally, TRRC shall incorporate the culverts into the existing grade of the streambed to avoid, to the maximum extent possible, changing the character of the streambed and impacting migrating amphibians and reptiles. Open bottom culverts shall be used to the extent feasible. The final design of culvert sizing should be determined by the project engineer based on the best available on-site information [TRRC II, Hydrology and Water Quality Condition (4), modified to reflect current industry practice and include migrating species]

Page 7-27, line 47 Add:

Mitigation Measure 91 (Paleontological Resources). If significant paleontological resources are discovered during surface disturbing activities, all work that potentially would damage the resource shall cease, the area of concern shall be protected, and the Board notified as soon as possible. Appropriate mitigation measures shall be developed by the Board and implemented as soon as possible. These mitigation measures could include, as appropriate, collection and curation of scientifically significant fossils, additional sampling, and/or monitoring of excavation.

Mitigation Measure 62 (Spill Prevention). TRRC shall develop, in cooperation with appropriate Federal, state, and local agencies, a plan to prevent spills of oil or other petroleum products (gasoline, diesel fuel, solvents), during construction, operation, and maintenance of this rail line.

TRRC's Spill Prevention Plan shall include measures pertaining to oil spills set forth in the mitigation plan in the Tongue River II DEIS. The plan developed by TRRC shall include conditions that shall be imposed on companies and contractors involved in construction of the Tongue River rail line. The plan shall provide emergency notification procedures, including a priority list of specific names and phone numbers of designated contacts (government and private) that are to be notified in case of events such as a fuel spill, range fire, or medical emergency during construction, operation and maintenance of the rail line. The following items shall be included in the plan:

- (1) Procedures for reporting a spill.
- (2) Definition of what constitutes a spill.
- (3) Methods of containing, recovering, and cleaning up a spill.
- (4) Preventive measures that will be employed to prevent ground water and surface water contamination.
- (5) BMPs that would apply to areas in and around rail yards to reduce the potential of ground water and surface water contamination.
- (6) A list of equipment needed to remediate a spill and its location.
- (7) A list of all governmental agencies and management personnel to be contacted and coordinated with, including but not limited to the following:
 - (a) Disaster and Emergency Services Division of the Department of Military Affairs, Helena. (This is the most important contact to develop a coordinated response.)
 - (b) Rural fire departments along the route.
 - (c) Local ambulance and emergency medical services, as well as air evacuation services in Billings and Sheridan.
 - (d) Montana Department of Environmental Quality, especially the Remediation Division.
 - (e) Montana Department of Fish, Wildlife, and Parks.
 - (f) Montana Department of Natural Resources and Conservation.
 - (g) Northern Cheyenne Tribe.
 - (h) Bureau of Land Management (BLM) or U.S. Fish and Wildlife Service. BLM would have fire suppression responsibilities on public land for fires handled by Type I Interagency Management Teams and Type II Geographic Area Teams.
 - (i) Other local agencies or groups that are identified by the agencies and entities above as key to disaster remediation.
- (8) Assurances that techniques and procedures to be employed in cleanup are the best practicable technology currently available.

[TRRC II, Safety Condition (8), which incorporates by reference Sections A.7.3.(1) a, A.7.3(2) a-i, and A.7.3(4), modified (1) to incorporate language of sections referred to and to clarify that the above measures apply to the entire rail line, and (2) to clarify roles of BLM and USFS.]

Page 7-33, line 21.

Mitigation Measure 84 (Protection of MCFH Water Supply Pipelines). As agreed to by TRRC and the Montana Department of Fish, Wildlife and Parks, TRRC shall relocate, as necessary, portions of the water supply pipelines from the Yellowstone River and Tongue River so that each pipeline crosses the rail right-of-way at a right angle or perpendicular to the rail alignment. To ensure structural integrity of the water supply pipelines, the portion of each pipeline lying perpendicular beneath the rail alignment shall be encased in a reinforced concrete pipe (RCP). The RCP shall be of sufficient size to allow for inspection and maintenance of the water supply pipelines. Access to the pipelines beneath the rail alignment shall be provided by installation of reinforced concrete manholes, located on each side of the rail alignment. The RCP manholes shall meet or exceed the American Railway Engineering and Maintenance of Way Association's standard specifications for installation of utilities underneath railway embankments. The design plans for the relocated section of the water pipelines and all associated elements shall be prepared by TRRC and provided to Montana Department of Fish, Wildlife, and Parks for review and approval prior to being constructed. TRRC shall locate and protect (and replace if harmed) outgoing water pipelines that would impact operations if affected by construction or operation.

Page 7-34, Line 16

Mitigation Measure 87 (MCFH). TRRC shall adhere to the reasonable mitigation conditions imposed by the Montana Department of Fish, Wildlife and Parks in any easement granted by the State allowing TRRC to cross the MCFH. FWP reserves the right to only grant an easement when all FWP concerns and studies provide for adequate information to determine if an easement is appropriate. *[TRRC III, new]*

Page 7-34,

Mitigation Measure 90 (Paleontological Resources). If significant paleontological resources are discovered during surface disturbing activities related to construction of any part of the TRRC line, all work that potentially would damage the resource shall cease, the area of concern shall be protected, and the Board notified as soon as possible. Appropriate mitigation measures shall be developed by SEA and implemented as soon as possible. These mitigation measures could include, as appropriate, collection and curation of scientifically significant fossils, additional sampling, and/or monitoring of excavation. *[TRRC III, New]*

Mitigation Measure 91 (Compensation Program). TRRC shall participate in the development of a reasonable compensation program for lost wildlife habitat along the rail line prior to beginning construction on any portion of the rail line. The goal of the compensation program shall be to ensure that there is no net decrease in wildlife-habitat values resulting from the project. Habitat values of acreage lost shall be

assessed using the U.S. Fish and Wildlife Service's Habitat Evaluation Procedure. TRRC shall be responsible for acquiring land (through purchase, conservation easements or other measures) and enhancing the wildlife-habitat value on that land to achieve the no-net-loss goal, and developing and implementing a monitoring plan to evaluate success of enhancement measures. Monitoring shall continue through the oversight and reporting period described in Mitigation Measure 17. The process of valuing habitat loss, acquiring and enhancing new lands, and implementing the monitoring plan shall be done by TRRC with prior approval of the Task Force in accordance with the process set forth in Mitigation Measure 14. The process of valuing habitat loss for individual species or habitat types shall include an as needed analysis of potential "habitat fragmentation", i.e., assessment of the direct loss of wildlife habitat, reduction in the size of existing habitat patches, creation of more edge-type habitat, and creation of barriers that block movement of wildlife between patches. An example of appropriate habitat compensation could include the purchase by TRRC of "cutoff" land parcels containing good wildlife habitat, and the donation of these lands to the Montana Department of Fish, Wildlife, and Parks for beneficial wildlife management. [TRRC I, Condition 10.1(1); TRRC II, Terrestrial Condition A.9.3(1), modified to clarify the goal of the compensation program]

Chapter 8

Page 8-2, Lines 19-24

Air Quality – The proposed Western Alignment would result in additional dust emissions during construction due to the additional amount of earth movement necessary to build this alignment when compared to the Four Mile Creek Alternative (~~7.07~~ 13.3 tons/mile/year versus ~~4.39~~ 10.06 tons/mile/year). As a result, the proposed Western Alignment would result in a somewhat greater unavoidable impact on air quality from that described in Tongue River II for the Four Mile Creek Alternative.

Chapter 9-12

No changes.

Chapter 13

Dryer, M. P. and A. J. Sandoval. 1993. Recovery Plan for the pallid sturgeon (Scaphirhynchus albus). U.S. Fish and Wildlife Service Recovery Plan, November 7, 1993.

Brownell, J.L. 2005. A Study of Locational Information Pertinent to Northern Cheyenne Homesteads on the East Side of the Tongue River. Prepared for the Custer National Forest, Billings, Montana.

Connelly, J. W., M. A. Schroeder, A. R. Sands, and C. E. Braun. 2000. Guidelines to manage sage grouse populations and their habitats. Wildlife Society Bulletin, 28(4): 967-985.

Connelly, J. W., S. T. Knick, M. A. Schroeder, and S. J. Stiver. 2004. Conservation assessment of greater sage-grouse and sagebrush habitats. Western Association of Fish and Wildlife Agencies. Unpublished Report. Cheyenne, Wyoming.

Montana Partners in Flight. 2000. Bird Conservation Plan, Montana, version 1.0, January 2000. Accessed on March 17 2005, <http://biology.dbs.umt.edu/landbird/mbcp/mtpif/mtstgr.htm>.

Federal Register. 1990. 50 CFR Part 17 Page 36641-36647. Review of species that are candidates or proposed for listing as endangered or threatened; annual notice of findings on resubmitted petitions; annual description of progress on listing actions; notice of review; proposed rule. September 6, 1990. (Volume 55, Number 173)

Shmidtz, Brad, Regional Fisheries Manager, MT FWP (Region 7), personal communication on May 5, 2005 concerning fishing populations in the Tongue River Reservoir.

Appendix A-C

No changes.

Appendix D

Page 1

The Tongue River Railroad Company, Inc. (TRRC) is applying for a Section 404 permit for an approximate ~~120~~ 130 mile rail line in Custer, Powder River, Rosebud, and Big Horn Counties Montana.

Appendix E

Page 6

An animal unit month (AUM) for those tracts is based on cattle. An AUM is equivalent to the grazing capability to support one cow/calf combination. A tract with 6 AUMs would support one cow/calf for six months per year or six cow/calves for one month per year. ~~estimated AUM loss.~~ Only five of the 17 tracts will result in an estimated AUM loss of more than 10%.

Tables 1 through 5 as shown on the following pages were not previously included in the Draft SEIS.

Table 1--BLM Tracts Crossed by Tongue River Railroad: Location, Acreage, Access, Lessee, and Land Use

Tract No. (County)	Section, Township and Range	Segment: 89m, 21m, or WA¹	Tract Acres²	ROW acres (miles)³	Public Access⁴	Lessee (Land Use)⁵
1 (Custer) See Exhibit 1	Sec. 10: 4N-47E NE½ NW¼	89m Segment	80	1 (0.01)	None, except with permission from adjacent landowners. If permission is obtained from the adjacent private landowners, private grade crossings by TRRC would allow access to this BLM-administered tract.	T Triangle Ranch (grazing)
2 (Custer) See Exhibit 2	Sec. 10: 3N-46E N½, W½ SW¼	89m Segment	376	41 (1.10)	<u>Yes</u> , accessible by the public via conservation easement deed between adjacent land owners, Les and Donna Hirsh and the Montana Dept. of Fish, Wildlife & Parks. Private grade crossings by TRRC will allow continued access to this BLM-administered tract.	Kyle Shaw (grazing)
3 (Custer) See Exhibit 3	Sec. 4: 2N-45E All	89m Segment	641	15 (0.42)	Yes, accessible by the public via the conservation easement deed between adjacent land owners, D. Bice and the Montana Department of Fish, Wildlife & Parks. Private grade crossing by TRRC will allow continued access to this BLM-administered tract.	D. Bice (grazing)
4 (Custer) See Exhibit 4	Sec. 8: 2N-45E S½	89m Segment	320	23 (0.61)	None, except with permission from adjacent landowners. If permission is obtained from the adjacent private landowners, private grade crossings by TRRC would allow access to this BLM-administered tract.	R. Anderson (grazing)
5 (Rosebud) See Exhibit 5	Sec. 2: 1N-44E NE¼	89m Segment	162	3 (0.08)	None, except with permission from adjacent landowners. If permission is obtained from the adjacent private landowners, private grade crossings by TRRC would allow access to this BLM-administered tract.	Hunt Oil Co. (grazing)

Tract No. (County)	Section, Township and Range	Segment: 89m, 21m, or WA¹	Tract Acres²	ROW acres (miles)³	Public Access⁴	Lessee (Land Use)⁵
6 (Rosebud) See Exhibit 6	Sec. 22: 1N-44E NW¼	89m Segment	160	19 (0.53)	None, except with permission from adjacent landowners. If permission is obtained from the adjacent private landowners, private grade crossings by TRRC would allow access to this BLM-administered tract.	Hunt Oil Co. (grazing)
7 (Rosebud) See Exhibit 7	Sec. 28: 1N-44E SW¼ NW¼, E½ SE¼, SE¼ SE¼	89m Segment	320	10 (0.28)	<u>Yes</u> , from County Road on east side of tract.	Hunt Oil Co. (grazing)
8 (Rosebud) See Exhibit 8	Sec. 2: 5S-43E All	21 m Segment	651	26 (0.72)	<u>Yes</u> , from Custer National Forest to the east. However, not directly accessible to the public from the county road except with permission from adjacent private landowner. If permission is obtained from the adjacent private landowners, private grade crossings by TRRC would allow access to this BLM-administered tract from the county road.	Nance Cattle Co. (grazing)
9 (Rosebud) See Exhibit 9	Sec. 5: 6S-43E All	21 m Segment	623	6 (0.17)	<u>Yes</u> , there are two ways for public access: (1) from County Road in northwest portion of the tract, and (2) from Montana State School Trust lands to the north, which also are directly accessible from the County Road.	Quarter Circle U. (grazing)

Tract No. (County)	Section, Township and Range	Segment: 89m, 21m, or WA¹	Tract Acres²	ROW acres (miles)³	Public Access⁴	Lessee (Land Use)⁵
10 (Rosebud) See Exhibit 10	Sec. 31: 6S-42E Lot 3	Western Alignment	35	2 (0.06)	None, except with permission from adjacent landowners. While this tract is accessible from Montana School Trust lands to the west, the state school section is isolated by private property. If permission is obtained from the adjacent private landowners, private grade crossings by TRRC would allow access to this BLM-administered tract.	V Bar C Cattle Co. (grazing)
11 (Rosebud) See Exhibit 11	Sec. 11: 7S-41E N½ NW¼, NW¼ NE¼	Western Alignment	126	3 (0.10)	None, except with permission from adjacent landowners. If permission is obtained from the adjacent private landowners, private grade crossings by TRRC would allow access to this BLM-administered tract.	V Bar C Cattle Co. (grazing)
12 (Rosebud) See Exhibit 12	Sec. 14: 7S-41E Lots 2, 3	Western Alignment	80	19 (0.55)	<u>Yes</u> , from the County Road. While this tract is also accessible from BLM-administered lands to the west, those BLM lands are isolated by private property. If permission is obtained from the adjacent private landowners, private grade crossings by TRRC would allow access to this BLM-administered tract from the adjacent BLM-administered lands.	V Bar C Cattle Co. (grazing)
13 (Rosebud) See Exhibit 13	Sec. 15: 7S-41E N½ SE¼, S½ NE¼, NW¼ NE¼	Western Alignment	200	5 (0.12)	<u>Yes</u> , from the BLM-administered lands to the east which are directly accessible from the County Road.	V Bar C Cattle Co. (grazing)

Tract No. (County)	Section, Township and Range	Segment: 89m, 21m, or WA¹	Tract Acres²	ROW acres (miles)³	Public Access⁴	Lessee (Land Use)⁵
14 (Rosebud) See Exhibit 14	Sec. 21: 7S-41E E½ NE¼, N½ SE¼	Western Alignment	141	24 (0.31)	None, except with permission from adjacent landowners. If permission is obtained from the adjacent private landowners, private grade crossings by TRRC would allow access to this BLM-administered tract.	Diamond Cross Properties, LLC (grazing)
15 (Rosebud) See Exhibit 15	Sec. 32: 7S-41E Lot 6	Western Alignment	42	31 0.28	<u>Yes</u> , from the County Road.	W. Musgrave (grazing)
16 (Big Horn) See Exhibit 16	Sec. 14: 8S-40E NW¼, W½ NE¼	Western Alignment	240	23 (0.46)	None, except with permission from adjacent landowners. While this tract is also accessible from BLM-administered lands to the west, those BLM lands are isolated by private property. If permission is obtained from the adjacent private landowners, private grade crossings by TRRC would allow access to this BLM-administered tract.	W. Taylor, Jr. (grazing)
17 (Big Horn) See Exhibit 17	Sec. 22 8S-40E N ½ N ½	Western Alignment	160	13 (0.19)	None except with permission from adjacent landowners. If permission is obtained from adjacent private landowners, private grade crossings by TRRC would allow access to this BLM-administered tract.	W. Taylor, Jr. (grazing)

Tract No. (County)	Section, Township and Range	Segment: 89m, 21m, or WA¹	Tract Acres²	ROW acres (miles)³	Public Access⁴	Lessee (Land Use)⁵
Total			4357 acres	264 acres (5.99 mi. of track)		
Tracts on Western Alignment				120 acres (2.07 mi. Of track)		

- 1 89m = Original 89 mile rail line from Miles City to south of Ashland, Montana approved by the ICC in 1986. 21m = Northern 21 miles of Ashland to Decker, Montana rail line extension approved by the STB in 1996. WA = Western Alignment.
- 2 BLM, Miles City office correspondence to TRRC, 1998.
- 3 Mission Engineering calculations, 1999.
- 4 TRRC analyses ownership maps, 1998.
- 5 BLM, Miles City office correspondence to TRRC, 1998.

Table 2--BLM Tracts Crossed by Tongue River Railroad: Potential Impacts to Cultural Resources and Land Use

Tract No. (County)	Cultural Resources¹	Impacts to Land Use (Ranching or Grazing)
1 Custer	None recorded on BLM land.	To avoid impact of dissected pastures, BLM-administered tracts will have either a cattle underpass to accommodate livestock passage (11' 3" wide and 12'6" high) and/or a private grade level crossing to accommodate vehicle passage based upon site specific needs of rancher. The estimated loss in stock grazing capability for this tract is 1% of AUM.
2 Custer	None recorded on BLM land.	See Tract 1 comments above on avoiding the impacts of dissected pastures. The estimated loss in stock grazing capability for this tract is 11% AUM.
3 Custer	None recorded on BLM land.	See Tract 1 comments above on avoiding the impacts of dissected pastures. The estimated loss in stock grazing capability for this tract is 3% AUM.
4 Custer	None recorded on BLM land.	See Tract 1 comments above on avoiding the impacts of dissected pastures. The estimated loss in stock grazing capability for this tract is 7% AUM.
5 Rosebud	None recorded on BLM land.	See Tract 1 comments above on avoiding the impacts of dissected pastures. The estimated loss in stock grazing capability for this tract is 2% AUM.
6 Rosebud	None recorded on BLM land.	See Tract 1 comments above on avoiding the impacts of dissected pastures. The estimated loss in stock grazing capability for this tract is 12% AUM.
7 Rosebud	None within ROW. One is within 1500 ft of alignment (24RB1592).	See Tract 1 comments above on avoiding the impacts of dissected pastures. The estimated loss in stock grazing capability for this tract is 3% AUM.
8 Rosebud	One within ROW (24RB217). Four within 1500 ft of alignment (24RB242, 24RB1626, 24RB1627, and 24RB1760).	See Tract 1 comments above on avoiding the impacts of dissected pastures. The estimated loss in stock grazing capability for this tract is 4% AUM.
9 Rosebud	None recorded on BLM land.	See Tract 1 comments above on avoiding the impacts of dissected pastures. The estimated loss in stock grazing capability for this tract is 1% AUM.

Tract No. (County)	Cultural Resources¹	Impacts to Land Use (Ranching or Grazing)
10 Rosebud	None recorded on BLM land.	See Tract 1 comments above on avoiding the impacts of dissected pastures. The estimated loss in stock grazing capability for this tract is 5% AUM.
11 Rosebud	None recorded on BLM land.	See Tract 1 comments above on avoiding the impacts of dissected pastures. The estimated loss in stock grazing capability for this tract is 3% AUM.
12 Rosebud	None recorded on BLM land.	See Tract 1 comments above on avoiding the impacts of dissected pastures. The estimated loss in stock grazing capability for this tract is 32% AUM.
13 Rosebud	None recorded on BLM land.	See Tract 1 comments above on avoiding the impacts of dissected pastures. The estimated loss in stock grazing capability for this tract is 2% AUM.
14 Rosebud	None recorded on BLM land.	See Tract 1 comments above on avoiding the impacts of dissected pastures. The estimated loss in stock grazing capability for this tract is 17% AUM.
15 Rosebud	None recorded on BLM land.	See Tract 1 comments above on avoiding the impacts of dissected pastures. The estimated loss in stock grazing capability for this tract is 74% AUM.
16 Big Horn	None recorded on BLM land None within ROW; two within 1500 ft of alignment (24BH1037 and 24BH2602).	See Tract 1 comments above on avoiding the impacts of dissected pastures. The estimated loss in stock grazing capability for this tract is 10% AUM.
17 Big Horn	None recorded on BLM land None within ROW; one within 1500 ft of alignment (BH509).	See Tract 1 comments above on avoiding the impacts of dissected pastures. The estimated loss in stock grazing capability is 8% AUM.

¹ More detailed information regarding the cultural resource sites identified in this column can be found as follows: (1) information regarding sites long the original 89-mile line from Miles City to south of Ashland appear in Appendix B to the September 1998 Radian Changed Circumstances Analysis relating to the Original 89-Mile Railroad; (2) information regarding sites along the northern 21 miles of the Ashland to Decker Extension appear in the September 1998 Radian Changed Circumstances Analysis relating to that portion of the Extension; and (3) information regarding sites along the Western Alignment appear in section 4.15 of the Environmental Report filed with the Western Alignment application in April 1998.

² As described above, BLM calculates grazing potential in animal unit months AUM's. The percentage reductions in AUM's are the reduction in grazing potential resulting from TRRC ROW acquisition within this tract.

Table 3--BLM Tracts Crossed by Tongue River Railroad: Potential Impacts to Access and Recreation

Tract No. (County)	Potential Impacts to Public Recreation
1 Custer	Little impact to recreation is expected for the following reasons. There is unlikely to be much public recreation on this tract because it is small and isolated, and the public has no access to the tract unless permission is obtained from adjacent private landowners (see Table 1). If the railroad is constructed, private grade crossings will continue to allow public access provided permission is obtained from private landowners. Moreover, the amount of ROW acreage in the tract is very low and only a corner of the tract would be crossed by the railroad (see Exhibit 1).
2 Custer	Little impact to recreation is expected for the following reasons. This tract currently is accessible to the public (see Table 1); hunting is probably the most likely current recreational use. Public access to the tract will continue if the railroad is constructed via private grade level crossings. Private grade crossings will provide access to conservation easement which, in turn, provides access to BLM land.
3 Custer	Little impact to recreation is expected for the following reasons. This tract currently is accessible to the public (see Table 1); hunting is probably the most likely current recreational use. Public access to the tract will continue if the railroad is constructed via private grade level crossings. Private grade crossings will provide access to conservation easement which, in turn, provides access to BLM land. Moreover, the amount of ROW acreage in the tract is very low and only a corner of the tract would be crossed by the railroad (see Exhibit 3).
4 Custer	Little impact to recreation is expected for the following reasons. There is unlikely to be much public recreation on this tract at the present time because it is relatively small and isolated, and the public has no access to the tract unless permission is obtained from adjacent private landowners (see Table 1). If the railroad is constructed, private grade crossings will continue to allow public access provided permission is obtained from private landowners.
5 Rosebud	Little impact to recreation is expected for the following reasons. There is unlikely to be much public recreation on this tract at the present time because it is relatively small and isolated, and the public has no access to the tract unless permission is obtained from adjacent private landowners (see Table 1). If the railroad is constructed, private grade crossings will continue to allow public access provided permission is obtained from private landowners. Moreover, the amount of ROW acreage in the tract is very low and only a corner of the tract would be crossed by the railroad (see Exhibit 5).

Tract No. (County)	Potential Impacts to Public Recreation
6 Rosebud	Little impact to recreation is expected for the following reasons. There is unlikely to be much public recreation on this tract at the present time because it is relatively small and isolated, and the public has no access to the tract unless permission is obtained from adjacent private landowners (see Table 1). If the railroad is constructed, private grade crossings will continue to allow public access provided permission is obtained from private landowners.
7 Rosebud	Little impact to recreation is expected for the following reasons. This tract currently is accessible to the public (see Table 1); hunting is probably the only current recreational use. Public access to the tract will continue via private grade level crossings if the railroad is constructed. Moreover, the amount of ROW acreage in the tract is very low and only a corner of the tract would be crossed by the railroad. (see Exhibit 7) Access to this tract from county road will continue through private grade crossings.
8 Rosebud	Little impact to recreation is expected for the following reasons. This tract currently is accessible to the public from the Custer National Forest (see Table 1); hunting is probably the only current recreational use. Public access to the tract through the Custer National Forest will not be affected if the railroad is constructed because the National Forest is on the east side of the tract and the railroad would cross the northwest corner of the tract (see Exhibit 8).
9 Rosebud	Little impact to recreation is expected for the following reasons. This tract currently is accessible to the public (see Table 1); hunting is probably the only current recreational use. Public access to the tract will continue via private grade level crossings if the railroad is constructed. Moreover, the amount of ROW acreage is very low and only a corner of the tract would be crossed by the railroad (see Exhibit 9).
10 Rosebud	Little impact to recreation is expected for the following reasons. There is unlikely to be much public recreation on this tract at the present time because it is small and isolated, and the public has no access to the tract unless permission is obtained from adjacent private landowners (see Table 1). If the railroad is constructed, private grade crossings will continue to allow public access provided permission is obtained from private landowners. Moreover, the amount of ROW acreage in the tract is very low and only a corner of the tract would be crossed by the railroad (see Exhibit 10).
11 Rosebud	Little impact to recreation is expected for the following reasons. There is unlikely to be much public recreation on this tract at the present time because it is small and the public has no access to the tract unless permission is obtained from adjacent private landowners (see Table 1). If the railroad is constructed, private grade crossings will continue to allow public access provided permission is obtained from private landowners. Moreover, the amount of ROW acreage in the tract is very low and only a corner of the tract would be crossed by the railroad (see Exhibit 11).

Tract No. (County)	Potential Impacts to Public Recreation
12 Rosebud	Little impact to recreation is expected for the following reasons. This tract currently is accessible to the public (see Table 1); hunting is likely to be the only current recreational use. However, due to its relatively small size, little public recreation probably occurs on this tract at the present time. In any event, public access to the tract will continue via private grade level crossings and cattle underpass structures. if the railroad is constructed.
13 Rosebud	Little impact to recreation is expected for the following reasons. This tract currently is indirectly accessible to the public via the adjacent BLM tract (see Table 1); hunting is likely to be the only current recreational use. However, due to the isolated nature of this tract and its relatively small size, little public recreation probably occurs on this tract at the present time. In any event, public access to the tract will continue via private grade level crossings and livestock underpasses if the railroad is constructed. Moreover, the amount of ROW acreage in the tract is very low and only a corner of the tract would be crossed by the railroad (see Exhibit 13).
14 Rosebud	Little impact to recreation is expected for the following reasons. There is unlikely to be much public recreation on this tract at the present time because it is relatively small and isolated, and the public has no access to the tract unless permission is obtained from adjacent private landowners (see Table 1). If the railroad is constructed, private grade crossings will continue to allow public access provided permission is obtained from private landowners. Moreover, the amount of ROW acreage in the tract is very low and only a corner of the tract would be crossed by the railroad (see Exhibit 14).
15 Rosebud	Little impact to recreation is expected for the following reasons. This tract currently is accessible to the public (see Table 1); hunting is likely to be the only current recreational use. However, due to the isolated nature of this tract and its small size, little public recreation probably occurs on this tract at the present time. In any event, public access to the tract from the county road to the tract will continue if the railroad is constructed.
16 Big Horn	Little impact to recreation is expected for the following reasons. There is unlikely to be much public recreation on this tract at the present time because it is relatively small and isolated, and the public has no access to the tract unless permission is obtained from adjacent private landowners (see Table 1). If the railroad is constructed, private grade crossings will continue to allow public access provided permission is obtained from private landowners.

Tract No. (County)	Potential Impacts to Public Recreation
17 Big Horn	Little impact to recreation is expected for the following reasons. There is unlikely to be much public recreation on this tract at the present time because it is relatively small and isolated, and the public has no access to the tract unless permission is obtained from adjacent private landowners (see Table 1). If the railroad is constructed, private grade crossings will continue to allow public access provided permission is obtained from private landowners. Moreover, the amount of ROW acreage in the tract is very low and only the eastern edge of the tract would be crossed by the railroad (see Exhibit 17).

Table 4--BLM Tracts Crossed by Tongue River Railroad: Analysis of "No Action" Alternative Which Would Avoid the Crossing of BLM-Administered Lands

Tract No. (County)	Analysis of "No Action" Alternative
1 Custer	<p>Exhibit 1 shows where the proposed current alignment crosses this BLM tract. The ROW is approximately 0.01 miles in length and comprises 1acre of this approximately 80 acre tract. The alignment utilizes low terrain and a saddle in the higher topography to cross this BLM tract and to minimize the extent of cut and fill and land disturbance.</p> <p>To avoid this BLM tract, the alignment would have to be shifted several hundred feet to the southeast. This movement would subsequently increase the cuts at the centerline by as much as 60 feet in depth. These larger cuts would disturb more range land and increase construction costs significantly. To bypass the BLM tract, additional curvature would have to be added to the alignment, thus increasing annual operating costs and requiring additional maintenance expense. More curvature also increases the likelihood of derailments.</p> <p>Bypassing the BLM land tract would increase the amount of total land disturbance and right of way, track length, excavation yardage, and the amount of private property disrupted to construct the alignment. The greater length would mean additional maintenance requirements. Moreover, the combined disadvantage of greater mileage, increased curvature, and increased maintenance would actually reduce the throughput capacity of the rail line, because each train would require a longer operating time and because maintenance would more frequently interfere with train operations.</p>

Tract No. (County)	Analysis of "No Action" Alternative
2 Custer	<p>Exhibit 2 shows where the proposed current alignment crosses this BLM tract. The ROW is approximately 1.10 miles in length and comprises 41 acres of this 376 acre tract. The alignment traverses diagonally from the northeast to the southwest across this tract of BLM land.</p> <p>In order to avoid this BLM land tract, the alignment would have to be shifted approximately 2,400 feet from its current location. If the alignment were moved approximately 2,400 feet to the east, the alignment would encroach on private irrigated crop lands and require two new bridge crossings of the Tongue River in order to tie back into the alignment on the west side of Tongue River. If the alignment were moved approximately 2,400 feet to the west, it would require the cuts to be hundreds of feet greater in height, in addition to creating greater horizontal curvature.</p> <p>Moving the alignment either east or west to avoid the BLM land tract would require: additional curvature; additional ROW; longer track length; and greater private property disruption. The combination of longer distance, increased curvature, and resulting increased maintenance expense also would reduce the throughput capacity of the rail line, due to longer operating time and more frequent maintenance interference with train operations. More curvature also increases the likelihood of derailments.</p>
3 Custer	<p>Exhibit 3 shows where the proposed current alignment crosses this BLM tract. The ROW is approximately 0.42 miles in length and comprises 15 acres of this 641 acre tract. In this area, the alignment traverses difficult topography. It utilizes low terrain and topographic saddles to minimize excavation, embankment and disturbance.</p> <p>To avoid the BLM land tract, the alignment would have to be moved over 1,000 feet to the southeast. If the alignment were moved to the southeast, it would increase the following: impacts to private property; construction expense; operational costs; horizontal and vertical curvature; ROW acres; track length; and excavation. In addition, the resulting combination of longer distance, increased curvature, and increased maintenance requirements also would reduce the throughput capacity of the rail line due to longer operating time and more frequent maintenance interference with train operations. More curvature also increases the likelihood of derailments.</p>

Tract No. (County)	Analysis of "No Action" Alternative
<p style="text-align: center;">4 Custer</p>	<p>Exhibit 4 shows where the proposed current alignment crosses this BLM tract. The ROW is approximately 0.61 miles in length and comprises approximately 23 acres of this 320 acre tract. The alignment traverses the center of this land tract.</p> <p>To avoid the BLM land tract, the alignment would have to be moved over 2,500 feet either east or west. If the alignment were moved to the east, it would cross privately owned irrigated crop lands. If the alignment were moved 2,500 feet to the west, it would encounter much higher topography requiring cuts hundreds of feet deeper than the current alignment.</p> <p>In addition, moving the alignment to avoid this BLM land tract would result in the following: additional curvature; additional privately owned ROW; increased excavation; increased track length; greater impacts to private property; increased construction costs and increased operational expenses. Moreover, the resulting combination of longer distance, increased curvature, and increased maintenance requirements also would reduce the throughput capacity of the rail line due to longer operating time and more frequent maintenance interference with train operations. More curvature also increases the likelihood of derailments.</p>
<p style="text-align: center;">5 Rosebud</p>	<p>Exhibit 5 shows where the proposed current alignment crosses this BLM tract. The ROW is approximately 0.08 miles in length and comprises 3 acres of this 162 acre tract. The alignment through this area utilizes a saddle in the topography in order to minimize excavation and land disturbance.</p> <p>To avoid the BLM tract, the alignment would have to be moved several hundred feet to the northwest. This movement would substantially increase the excavation and the amount of ROW necessary to build the alignment. This shift in the alignment would disturb more private property and substantially increase the cost of construction. In addition, moving the alignment to avoid this BLM land tract would result in the following: additional curvature; additional privately owned ROW; and increased track length and increased operational costs. Moreover, the resultant combination of longer distance, increased curvature, and increased maintenance requirements also would reduce the throughput capacity of the rail line due to longer operating time and more frequent maintenance interference with train operations. More curvature also increases the likelihood of derailments.</p>

Tract No. (County)	Analysis of "No Action" Alternative
6 Rosebud	<p>Exhibit 6 shows where the proposed current alignment crosses this BLM tract. The ROW is approximately 0.53 miles in length and comprises 19 acres of this approximately 160 acre tract. The alignment in this area parallels the existing Tongue River County Road.</p> <p>To avoid the BLM tract, the alignment would have to be moved approximately 1,000 feet east toward the flood plain of the Tongue River and into privately-owned irrigated crop land. This movement also would necessitate two additional crossings of the county road. In addition, moving the alignment to avoid this BLM land tract would result in the following: increased encroachment onto the Tongue River flood plain; additional impacts on public utilities and infrastructure such as county road, telephone, and powerlines (not quantified at this point); greater horizontal and vertical curvature; more ROW acres; increased track length; additional embankment; greater impacts on privately owned property; and increased construction and operational costs. The resultant combination of longer distance, increased curvature, and increased maintenance requirements also would reduce the throughput capacity of the rail line due to longer operating time and more frequent maintenance interference with train operations. More curvature also increases the likelihood of derailments.</p>
7 Rosebud	<p>Exhibit 7 shows where the proposed current alignment crosses this BLM tract. The ROW is approximately 0.28 miles in length and comprises 10 acres of this approximately 320 acre tract. The alignment in this area parallels the existing Tongue River County Road.</p> <p>To avoid this BLM tract, the alignment would have to move approximately 1,000 feet east onto the flood plain of the Tongue River and possibly require rip rapping the bank of the Tongue River. This alignment shift also would require two additional crossings of the Tongue River County Road. In addition, moving this alignment to avoid this BLM land tract, would result in the following: increased encroachment on the Tongue River flood plain; additional impacts on public utilities and infrastructure such as county road, telephone, and power lines (not quantified at this point); an additional very sharp horizontal curvature to avoid a crossing of the Tongue River; more ROW acres; increased track length; additional embankment; greater impacts on privately owned property; and increased construction and operational costs. Moreover, the resultant combination of longer distance, increased curvature, and increased maintenance requirements also would reduce the throughput capacity of the rail line due to longer operating time and more frequent maintenance interference with train operations. More curvature also increases the likelihood of derailments.</p>

Tract No. (County)	Analysis of "No Action" Alternative
8 Rosebud	<p>Exhibit 8 shows where the proposed current alignment crosses this BLM tract. The ROW is approximately 0.72 miles in length and comprises 26 acres of this approximately 651 acre tract. The alignment traverses through a saddle in the northwest quarter of this BLM land tract.</p> <p>To avoid this BLM land tract, the alignment would have to be moved approximately 2,000 feet to the northwest, requiring much greater cuts and fills. In addition, moving the alignment to avoid this BLM land tract would result in the following: increased horizontal and vertical curvature; more ROW acres; greater track length; more excavation and embankment; greater impacts on privately-owned property; and increased construction and operational costs. Moreover, the resultant combination of longer distance, increased curvature, and increased maintenance also would reduce the throughput capacity of the rail line due to longer operating time and more frequent maintenance interference with train operations. More curvature also increases the likelihood of derailments.</p>
9 Rosebud	<p>Exhibit 9 shows where the proposed current alignment crosses this BLM tract. The ROW is approximately 0.17 miles in length and comprises 6 acres of this 623 acre tract.</p> <p>To avoid this BLM land tract, the alignment would have to be moved approximately 600 feet to the northwest. This movement would require two additional crossings of the county road. In addition, moving the alignment to avoid this BLM land tract would result in the following: greater impacts on public utilities and infrastructure such as county road, telephone, and power lines (not quantified at this point); increased horizontal and vertical curvature; more ROW acres; increased track length; more excavation and embankment; greater impacts to privately owned property and increased construction; and operational costs. Moreover, the resulting combination of longer distance, increased curvature, and increased maintenance requirements also would reduce the throughput capacity of the rail line due to longer operating time and more frequent maintenance interference with train operations. More curvature also increases the likelihood of derailments.</p>

Tract No. (County)	Analysis of "No Action" Alternative
10 Rosebud	<p>Exhibit 10 shows where the proposed current alignment crosses this BLM tract. The ROW is approximately 0.06 miles in length and comprises 2 acres of this 35 acre tract. The alignment in this area parallels the existing Tongue River County Road.</p> <p>To avoid the BLM tract, the railroad alignment and the existing county road would have to be moved approximately 500 feet southeast into the flood plain of the Tongue River. This shift in the alignment would also encroach on existing privately-owned irrigated crop land. In addition, moving the alignment to avoid this BLM land tract would result in the following: greater encroachment onto the Tongue River flood plain; additional impacts on public utilities and infrastructure such as county road, telephone, and powerlines (not quantified at this point); additional sharp horizontal curvature; more ROW acres; increased track length; more embankment; greater impacts on privately-owned property; and increased construction and operational costs. Moreover, the resulting combination of longer distance, increased curvature, and increased maintenance requirements also would reduce the throughput capacity of the rail line due to longer operating time and more frequent maintenance interference with train operations. More curvature also increases the likelihood of derailments.</p>
11 Rosebud	<p>Exhibit 11 shows where the proposed current alignment crosses this BLM tract. The ROW is approximately 0.10 miles in length and comprises 3 acres of this 126 acre tract. The alignment in this area parallels the existing Tongue River County Road.</p> <p>To avoid the BLM tract, the railroad alignment and the existing county road would have to be moved approximately 400 feet southeast onto the flood plain of the Tongue River. This shift in the alignment would also encroach on existing privately-owned irrigated crop land. In addition, moving the alignment to avoid this BLM land tract would result in the following: greater encroachment onto the Tongue River flood plain; additional impacts on public utilities and infrastructure such as county road, telephone, and powerlines (not quantified at this point); additional sharp horizontal curvature; more ROW acreage; increased track length; more embankment; greater impacts on privately-owned property; and increased construction and operational costs. Moreover, the resulting combination of longer distance, increased curvature, and increased maintenance requirements also would reduce the throughput capacity of the rail line due to longer operating time and more frequent maintenance interference with train operations. More curvature also increases the likelihood of derailments.</p>

Tract No. (County)	Analysis of "No Action" Alternative
12 Rosebud	<p>Exhibit 12 shows where the proposed current alignment crosses this BLM tract. The ROW is approximately 0.55 miles in length and comprises 19 acres of this approximately 80 acre tract. The alignment utilizes a topographic saddle and crosses this BLM tract diagonally while paralleling the existing Tongue River County Road.</p> <p>To avoid the BLM tract, the alignment would have to be moved approximately 1,500 feet either east or west. Movement in either direction to avoid the tract would greatly increase earthwork and curvature due to the difficult terrain on either side of the present alignment. Further, moving the alignment to the east would necessitate either realignment or additional crossings of the existing Tongue River County Road.</p> <p>In addition, shifting the alignment in either direction to avoid this BLM tract would result in the following: greater impacts on public utilities and infrastructure such as county road, telephone, and powerlines (not quantified at this point); increased horizontal and vertical curvature; more ROW acres; increased track length; more excavation and embankment; greater impacts on privately-owned property; and increased construction and operational costs. Moreover, the resulting combination of longer distance, increased curvature, and increased maintenance requirements also would reduce the throughput capacity of the rail line due to longer operating time and more frequent maintenance interference with train operations. More curvature also increases the likelihood of derailments.</p>

Tract No. (County)	Analysis of "No Action" Alternative
13 Rosebud	<p>Exhibit 13 shows where the proposed current alignment crosses this BLM tract. The ROW is approximately 0.12 miles in length and comprises 5 acres of this approximately 200 acre tract.</p> <p>To avoid this BLM tract, the alignment would have to be shifted approximately 600 feet to the southeast. Due to the very rough terrain, this shift would greatly increase earthwork and surface disturbance associated with constructing the alignment. The shift would also necessitate additional crossings or realignment of the existing Tongue River County Road. In addition, moving the alignment to avoid the BLM tract would result in the following: additional impacts on public utilities and infrastructure such as county road, telephone, and powerlines (not quantified at this point); increased horizontal and vertical curvature; more ROW acres; increased track length; more excavation and embankment; greater impacts on privately owned property; and increased construction and operational costs. Moreover, the resulting combination of longer distance, increased curvature, and increased maintenance requirements also would reduce the throughput capacity of the rail line due to longer operating time and more frequent maintenance interference with train operations. More curvature also increases the likelihood of derailments.</p>
14 Rosebud	<p>Exhibit 14 shows where the proposed current alignment crosses this BLM tract. The ROW is approximately 0.31 miles in length and comprises 24 acres of this approximately 141 acre tract.</p> <p>To avoid this BLM tract, the alignment would have to be shifted approximately 1,000 feet to the east. Due to the very rough terrain, this shift would greatly increase earthwork and surface disturbance. The shift also would require moving the rail alignment and existing county road closer to the Tongue River flood plain and would greatly increase the length and height of the required fill across the Four Mile Creek drainage. In addition, shifting the alignment to avoid this BLM tract would result in the following: more encroachment on the Tongue River flood plain; greater impacts on public utilities and infrastructure such as county road, telephone, and powerlines (not quantified at this point); increased horizontal and vertical curvature; more ROW acres; increased track length; more excavation and embankment; greater impacts on privately-owned property; and increased construction and operational costs. Moreover, the resulting combination of longer distance, increased curvature, and increased maintenance requirements also would reduce the throughput capacity of the rail line due to longer operating time and more frequent maintenance interference with train operations. More curvature also increases the likelihood of derailments.</p>

Tract No. (County)	Analysis of "No Action" Alternative
15 Rosebud	<p>Exhibit 15 shows where the proposed current alignment crosses this BLM tract. The ROW is approximately 0.28 miles in length and comprises 31 acres of this 42 acre tract. The alignment traverses through the center of this BLM tract.</p> <p>To avoid this BLM tract, the alignment would have to be moved approximately 1,200 feet to the east or the northwest. To shift the alignment this distance to the east would require two additional Tongue River crossings and more encroachment on the Tongue River flood plain. To shift the alignment this distance to the northwest would require significantly increased amounts of earthwork with cuts hundreds of feet greater in depth.</p> <p>In addition, moving the alignment in either direction to avoid this BLM tract would result in the following: increased horizontal and vertical curvature; more ROW acres; increased track length; substantially larger quantities of excavation and embankment; greater impact on privately-owned property; and increased construction and operational costs. Moreover, the resulting combination of longer distance, increased curvature, and increased maintenance requirements also would reduce the throughput capacity of the rail line due to longer operating times and more frequent maintenance interference with train operations. More curvature also increases the likelihood of derailments.</p>
16 Big Horn	<p>Exhibit 16 shows where the proposed current alignment crosses this BLM tract. The ROW is approximately 0.46 miles in length and comprises 23 acres of this approximately 240 acre tract. The alignment traverses through the southeastern corner of this BLM tract.</p> <p>To avoid this BLM tract, the alignment would have to be moved approximately 1,200 feet to the southeast. To move the alignment to the southeast would require encroachment on the Tongue River Reservoir State Recreation area.</p> <p>In addition, shifting the alignment to avoid this BLM tract would result in the following: increased horizontal and vertical curvature; more ROW acres; increased track length; more excavation and embankment; greater impacts on privately-owned property; and increased construction and operational costs. Moreover, the resulting combination of longer distances, increased curvature, and increased maintenance requirements also would reduce the throughput capacity of the rail line due to longer operating times and more frequent maintenance interference with train operations. More curvature also increases the likelihood of derailments.</p>

Tract No. (County)	Analysis of "No Action" Alternative
17 Big Horn	<p>Exhibit 17 shows where the proposed current alignment crosses this BLM tract. The ROW is approximately 0.19 miles in length and comprises 13 acres of this approximately 160 acre tract. The alignment traverses the eastern edge of this BLM tract.</p> <p>To avoid this BLM tract, the alignment would have to be moved approximately 800 feet to the southeast. Shifting the alignment this distance to the east would move the rail line closer to the Tongue River Reservoir State Recreation Area and would require greater amounts of cut and fill. In addition, moving the alignment to avoid this BLM tract would result in the following: increased horizontal and vertical curvature; more ROW acres; increased track length; increased excavation and embankment; greater impacts on privately-owned property; and increased construction and operational costs. Moreover, the resulting combination of longer distance, increased curvature, and increased maintenance requirements also would reduce the throughput capacity of the rail line due to longer operating times and more frequent maintenance interference with train operations. More curvature also increases the likelihood of derailments.</p>

Table 5--BLM Tracts Crossed by Four Mile Creek Alternative: Location; Tract Acreage, ROW/length required; Public Access/Land Use; Cultural Resources/Reduction in Animal Grazing Potential and No-Action Alternative

Tract No. (County) Legal Description	Tract Acres ROW acres (miles)	Public Access, (Lessee; Current Land Use) Recreation Use	Cultural Resources Impacts to Land Use: (1) Dissected pastures (2) Potential Reduction to Animal Grazing¹	Analysis of No-Action Alternative
<p>F1 (Rosebud) See Exhibit 18 Sec. 13, Township 7 S Range 41 E SW¼ NE¼, SE¼ NW¼, N½ SE¼, SE¼ SE¼</p>	<p>203 acres 4 acres in ROW (0.11 miles ROW length)</p>	<p>None, except with permission from adjacent landowner(s) (V Bar C Cattle Company; grazing) Due to small tract size and fact that no current public access absent adjacent landowner(s) permission, little recreation opportunity</p>	<p>No cultural resources recorded either in ROW or within 1500 ft of alignment. (1) See Table 2, Tract 1 comments which explain how TRRC will avoid impacts of dissected pastures. (2) 2% estimated AUM loss of grazing potential.</p>	<p>Exhibit 18 shows where the Four Mile Creek Alternative crosses this BLM tract. The alignment catches the corner of the SE¼, NW¼ of this 203 acre BLM tract. At this location, the Four Mile Creek Alternative is on the east side of the Tongue River, prior to crossing the Tongue River at the mouth of Four Mile Creek. In order to avoid this BLM tract, the alignment would have to be moved approximately 1,000 feet to the west, or approximately 4,000 feet to the east. Moving the alignment to the west would require two additional crossings of the Tongue River and subsequent infringement on the flood plain of the Tongue River. Moving the alignment to the east would require large cuts of 300 feet or greater, substantially increasing the required ROW acreage. In addition shifting the alignment to avoid the BLM tract also would result in the following: more ROW, more privately-owned ROW acreage, greater track length, more excavation yardage, increased curvature, larger number of river crossings, increased maintenance requirements. In addition to increased construction and operational costs associated with this shifted alignment, the resultant combination of longer distances, increased curvature and grades, and increased maintenance requirements reduces the throughput capacity of the rail line.</p>

Tract No. (County) Legal Description	Tract Acres ROW acres (miles)	Public Access, (Lessee; Current Land Use) Recreation Use	Cultural Resources Impacts to Land Use: (1) Dissected pastures (2) Potential Reduction to Animal Grazing ¹	Analysis of No-Action Alternative
				Due to longer operating times and maintenance interference with train operations. More curvature also increases the likelihood of derailments.
F2 (Rosebud) See Exhibit 19 Sec. 28, Township 7 S Range 41 E NW¼ NW¼	51 acres 17 acres in ROW (0.26 miles ROW length)	None, except with permission from adjacent landowner(s) (John Young; grazing) Due to small tract size and fact that no current public access absent adjacent landowner(s) permission, little recreation opportunity	No cultural resources recorded either in ROW or within 1500 ft of alignment. (1) See Table 2, Tract 1 comments which explain how TRRC will avoid impacts of dissected pastures. (2) 33% estimated AUM loss of grazing potential.	Exhibit 19 shows where the Four Mile Creek Alternative crosses this BLM tract. The alignment crosses the north edge of this 51 acre BLM tract. At this location, the Four Mile Creek Alignment is traversing up the south side of the Four Mile Creek drainage on a very steep grade of 1.84%. In order to avoid this tract of BLM land, the alignment would have to be moved 600 feet to the north or approximately 1,200 feet to the south. Moving the alignment in either direction would greatly increase the necessary cuts and fills and would increase the already excessive operating grades of the alignment. Moving the alignment to avoid this BLM tract also would result in the following: increased horizontal and vertical curvature; increased private ROW acreage; increased track length; and increased excavation and embankment. In addition to increased construction and operational costs associated with this shifted alignment, the resultant combination of longer distances, increased curvature and grades, and increased maintenance requirements reduces the throughput capacity of the rail line due to longer operating times and maintenance interference with train

Tract No. (County) Legal Description	Tract Acres ROW acres (miles)	Public Access, (Lessee; Current Land Use) Recreation Use	Cultural Resources Impacts to Land Use: (1) Dissected pastures (2) Potential Reduction to Animal Grazing ¹	Analysis of No-Action Alternative
				operations. More curvature also increases the likelihood of derailments.
<p>F3 (Big Horn) See Exhibit 20</p> <p>Sec. 1, Township 8 S Range 39 E Lot 19</p>	<p>40 acres 9 acres in ROW (0.25 miles ROW length)</p>	<p>Accessible from State Highway 314</p> <p>(John Young; grazing)</p> <p>This tract is currently accessible to public. However, due to small tract size, little recreation opportunity</p>	<p>No cultural resources recorded either in ROW or within 1500 ft of alignment.</p> <p>(1) See Table 2, Tract 1 comments which explain how TRRC will avoid impacts of dissected pastures.</p> <p>(2) 23% estimated AUM loss of grazing potential.</p>	<p>Exhibit 20 shows where the Four Mile Creek Alternative crosses this BLM tract. The alignment traverses along the east edge of this 40 acre BLM tract and is parallel to State Highway 314. In order to avoid this BLM tract, the alignment would have to be moved either approximately 400 feet to the east or 1,200 feet to the west. Moving the alignment to the east would necessitate additional crossings of State Highway 314. Moving to the alignment to the west would substantially increase the amount of excavation and embankment and the impact on privately owned lands.</p> <p>Moving the alignment to avoid this BLM tract also would result in the following: increased horizontal and vertical curvature; increased private ROW acreage; increased track length; and increased excavation and embankment. In addition to increased construction and operational costs associated with this shifted alignment, the resultant combination of longer distances, increased curvature and grades, and increased maintenance requirements reduces the throughput capacity of the rail line due to longer operating times and maintenance interference with train operations. More curvature also increases the likelihood of derailments.</p>

Tract No. (County) Legal Description	Tract Acres ROW acres (miles)	Public Access, (Lessee; Current Land Use) Recreation Use	Cultural Resources Impacts to Land Use: (1) Dissected pastures (2) Potential Reduction to Animal Grazing ¹	Analysis of No-Action Alternative
<p>F4 (Big Horn) See Exhibit 21</p> <p>Sec. 17, Township 8 S Range 40 E SE¼ SW¼</p>	<p>35 acres of grazing lease affected on north side of highway</p> <p>11 acres in ROW</p> <p>(0.36 miles ROW length)</p>	<p>Accessible from State Highway 314</p> <p>(W. Taylor, Jr.; grazing)</p> <p>This tract is currently accessible to public. However, due to small tract size, little recreation opportunity</p>	<p>No cultural resources recorded either in ROW or within 1500 ft of alignment.</p> <p>(1) See Table 2, Tract 1 comments which explain how TRRC will avoid impacts of dissected pastures.</p> <p>(2) 31% estimated AUM loss of grazing potential.</p>	<p>Exhibit 21 shows where the Four Mile Creek Alternative crosses this BLM tract. The alignment crosses this 80 acre (minus highway ROW) BLM tract to the north. Only the 35 acre grazing lease on north side of highway is affected.</p> <p>In order to avoid this BLM tract and the adjacent BLM tract in Section 18, the alignment would have to be moved approximately 1,300 feet to the northeast or 1,700 feet to the southwest.</p> <p>Moving the alignment to avoid this BLM tract in either direction would result in the following: increased impact on public utilities and infrastructure such as State Highway, telephone, powerlines (not quantified at this point); increased horizontal and vertical curvature; additional ROW acres; longer track length; more excavation and embankment; conflict with State Highway 314; and greater impact on private property. In addition to increased construction and operational costs associated with this shifted alignment, the resultant combination of longer distances, increased curvature and grades, and increased maintenance requirements reduces the throughput capacity of the rail line due to longer operating times and maintenance interference with train operations. More curvature also increases the likelihood of derailments.</p>
<p>F5 (Big Horn)</p>	<p>170 acres</p>	<p>Accessible from State Highway</p>	<p>No cultural resources recorded either in ROW</p>	<p>Exhibit 22 shows where the Four Mile Creek Alternative crosses this BLM tract. The alignment crosses this 170 acre BLM tract</p>

Tract No. (County) Legal Description	Tract Acres ROW acres (miles)	Public Access, (Lessee; Current Land Use) Recreation Use	Cultural Resources Impacts to Land Use: (1) Dissected pastures (2) Potential Reduction to Animal Grazing ¹	Analysis of No-Action Alternative
See Exhibit 22 Sec. 18, Township 8 S Range 40 E NE¼, N½ SE¼	13 acres in ROW (0.55 miles ROW length)	314 (W. Taylor, Jr.; grazing) This tract is currently accessible to public. However, due to relatively small tract size, little recreation opportunity	or within 1500 ft of alignment. (1) See Table 2, Tract 1 comments which explain how TRRC will avoid impacts of dissected pastures. (2) 8% estimated AUM loss of grazing potential.	along State Highway 314. In order to avoid this BLM tract, the alignment would have to be moved approximately 3,300 feet to the northeast or 3,900 feet to the southwest. Moving the alignment in either direction to avoid this BLM tract would result in the following: increased horizontal and vertical curvature; more ROW acres; longer track length; greatly increased excavation and embankment; conflict with State Highway 314; and increased impacts on private property. In addition to increased construction and operational costs associated with this shifted alignment, the resultant combination of longer distances, increased curvature and grades, and increased maintenance requirements reduces the throughput capacity of the rail line due to longer operating times and maintenance interference with train operations. More curvature also increases the likelihood of derailments.
F6 ¹ (Big Horn) See Exhibit 23 Sec. 20	15 acres 2 acres in ROW	Accessible from State Highway 314 (W. Taylor, Jr.;	No cultural resources recorded either in ROW or within 1500 ft of alignment.	Exhibit 23 shows where the Four Mile Creek Alternative crosses this BLM tract. The alignment traverses the northeast corner of the BLM tracts in Section 20, paralleling State Highway 314. In order to avoid this BLM tract, the alignment would have to be moved approximately 1,200 feet to the northwest requiring

¹ F6 has two separate grazing leases. This page describes 15 acre northern portion (Taylor lease) that lies north and east of State Highway 314.

Tract No. (County) Legal Description	Tract Acres ROW acres (miles)	Public Access, (Lessee; Current Land Use) Recreation Use	Cultural Resources Impacts to Land Use: (1) Dissected pastures (2) Potential Reduction to Animal Grazing ¹	Analysis of No-Action Alternative
Township 8 S Range 40 E NE¼ NW¼	(0.08 miles ROW length)	grazing) Due to small tract size, little recreation opportunity	(1) See Table 2, Tract 1 comments which explain how TRRC will avoid impacts of dissected pastures. (2) 14% estimated AUM loss of grazing potential.	additional crossings of State Highway 314 or 4,300 feet to the southwest requiring much greater cuts and fills. Moving the alignment to avoid the BLM tracts in Section 20 also would result in the following: increased horizontal and vertical curvature; more ROW acres; longer track length; increased excavation and embankment; and greater impact on private property. In addition to increased construction and operational costs associated with this shifted alignment, the resultant combination of longer distances, increased curvature and grades, and increased maintenance requirements reduces the throughput capacity of the rail line due to longer operating times and maintenance interference with train operations. More curvature also increases the likelihood of derailments.
F6 ¹ (Big Horn) See Exhibit 23 Sec. 20 Township 8 S	280 acres 14 acres in ROW (0.39 miles	Accessible from State Highway 314 (Decker Coal Co.; grazing)	No cultural resources recorded either in ROW or within 1500 ft of alignment. (1) See Table 2, Tract 1	Exhibit 23 also shows where the Four Mile Creek Alternative crosses this BLM tract. See discussion above for Section 20, Township 8 South, Range 40 East.

¹ F6 has two separate grazing leases. This page describes 280 acre southern portion (Decker Coal Co. lease) that lies on both sides of State Highway 314.

Tract No. (County) Legal Description	Tract Acres ROW acres (miles)	Public Access, (Lessee; Current Land Use) Recreation Use	Cultural Resources Impacts to Land Use: (1) Dissected pastures (2) Potential Reduction to Animal Grazing ¹	Analysis of No-Action Alternative
Range 40 E S½ NE¼, SE¼ SW¼, SE ¼	ROW length)	This tract is currently accessible to public. However, due to relatively small tract size, little recreation opportunity	comments which explain how TRRC will avoid impacts of dissected pastures. (2) 5% estimated AUM loss of grazing potential.	
F7 (Big Horn) See Exhibit 24 Sec. 28, Township 8 S Range 40 E N½ NE¼, NE¼ NW¼, SE¼ SE¼	160 acres 14 acres in ROW (0.37 miles in ROW length)	Accessible from State Highway 314 (Decker Coal Co.; grazing) This tract is currently accessible to public. However, due to small tract size, little recreation	No cultural resources recorded either in ROW or within 1500 ft of alignment. (1) See Table 2, Tract 1 comments which explain how TRRC will avoid impacts of dissected pastures. (2) 9% estimated AUM loss of grazing potential.	Exhibit 24 shows where the Four Mile Creek Alternative crosses this BLM tract. The right of way traverses the west end of this BLM tract, paralleling State Highway 314 and the Spring Creek mine rail spur. In order to avoid this BLM tract, the alignment would have to be moved approximately 3,300 feet to the northeast or 1,400 feet to the southwest. Movement of the alignment would increase the complexity of the tie with the existing Spring Creek mine spur and crossings of State Highway 314. Moving the alignment to avoid this BLM tract also would result in the following: increased horizontal and vertical curvature; more ROW acres; longer track length; increased excavation and embankment; and greater impact on private property. In addition to increased construction and operational costs associated with

Tract No. (County) Legal Description	Tract Acres ROW acres (miles)	Public Access, (Lessee; Current Land Use) Recreation Use	Cultural Resources Impacts to Land Use: (1) Dissected pastures (2) Potential Reduction to Animal Grazing¹	Analysis of No-Action Alternative
		opportunity		this shifted alignment, the resultant combination of longer distances, increased curvature and grades, and increased maintenance requirements reduces the throughput capacity of the rail line due to longer operating times and maintenance interference with train operations. More curvature also increases the likelihood of derailments.
Total Tracts on Four Mile Creek Alternative	84 acres in ROW (2.37 miles in ROW length)			

The following information is related to the evaluation of alternate routes that would avoid state lands. This information, which was prepared by the State of Montana, Department of Natural Resources was erroneously not included in Appendix F of the Draft SEIS.

Appendix F

State Land Alternate Route Analysis Tongue River Railroad

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Figure 5	Site No. 6
Figure 6	Site No. 10
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1.0 Introduction

In accordance with Montana Department of Natural Resources and Conservation (DNRC) requirements, an alternate route evaluation has been performed to investigate the least environmentally sensitive option for crossing state lands for the subject railroad alignment. Alternate routes for the proposed alignment were evaluated through or around ten State school trust land properties and one Water Resources Division parcel (see Figure 1 for locations and Table 1 for location descriptions). The evaluation was performed based on preliminary route location maps provided by the Tongue River Railroad Company (TRRC). On-the-ground investigations for endangered/sensitive plant and animal species, cultural resources, wetlands or wildlife habitat were not performed. These evaluations will be performed once complete easement applications have been submitted by the TRRC. This analysis may be modified based on the findings of these evaluations. The evaluation in this section is based upon the information submitted by TRRC to date; therefore, DNRC's evaluations as to alternative route proposals may change if and when additional information is provided. The recommendations included in this appendix are subject to change and should be considered accordingly.

Enclosed are a set of drawings (Figures 1 through 10), a table (Table 1) that summarizes the evaluation of alternative routes for the Tongue River Railroad (TRR) across State school trust lands and the Water Resources Division parcel and a second table (Table 2) that summarizes current land use and lessee. The attached maps illustrate each State land parcel and the TRRC's proposed route along with two feasible alternate routes that avoid or minimize impacts to the school trust land and adjacent private land. The sites evaluated include: #3, #3A (#3 and #3A are for the same school trust land parcel), #4, #5, #6, #10, #11, #12, #14, #15 and #17. Table 1 summarizes the location and the advantages and disadvantages of each alternative and provides a recommendation for the alternate with the least environmental impact.

Each alternate was evaluated for potential impacts to the resource areas considered in the SEIS i.e., hydrology, soils, water quality, cultural resources, terrestrial resources, air quality, safety and transportation, socioeconomics, recreation, land use, wetlands, aquatic resources, vegetation and endangered species. The evaluations were performed using the best available information from the existing EISs (TRI, TRII and TRIII), the preliminary easement application submitted by the TRRC and the Environmental Report prepared by Radian (1999).

The results of the Alternate Route evaluation are summarized in Table 1. Based on available information, the analysis indicates the following:

- The TRRC's proposed alignment would create no significant increased environmental impacts for sites #4, #5, #6, #11, #12, #14 and #17, when compared to the alternatives studied.
- An alternative was proposed by the lessee for Site #3 which would have a greater impact on school trust land (severance, cut and fill) but would provide

a shorter, straighter alignment and would reduce impacts on wetlands located on the proposed route.

- The evaluation indicates that for Site #6, an alternative alignment would be preferred to avoid potential Tongue River streambank instability and Tongue River Road relocation concerns.
- For Site #10 (Figure 6), the evaluation indicates a potential to modify the location of the alignment within the State section to minimize environmental and safety concerns.
- For Site #15 (Figure 10), the evaluation indicates that an alternate location to the west would avoid State land and the known cultural site located on or near this property.

2.0 Site # 3

As shown on the attached Figure 2, Tongue River Railroad Company's (TRRC) proposed alignment crosses Site No. 3 in the southeast corner of Section 12, T5N, R47E. The primary concern with the TRRC's proposed alignment in this area is the crossing of the wetlands and irrigated cropland located east of the site. The applicant's proposed route would have minimal impact to school trust land. Alternatives A and B would completely avoid the school trust land but would not significantly decrease environmental impacts.

As shown on the attached Figure 2, an alternative alignment proposed by the current lessee (Alternate 3C) would be located west of the TRRC's proposed alignment and would cross through the middle of the school trust land. This route would increase cuts and fills but would be shorter and straighter and provide improved operational efficiency. It is also located further away from the Tongue River floodplain, minimizing flooding and ice damming concerns and would avoid the known wetland. This alternative appears to have the least environmental impact.

If detailed evaluations of earthwork cut and fill volumes, residual soil types and erosion/sedimentation are desired for this alternative analysis, TRRC and their engineering consultants should defend their preferred alignment and provide the information required to compare the alternatives in more detail. Earthwork volume calculations cannot be accurately performed and compared without vertical profile data to go with the horizontal alignment and existing topographic data. TRRC and their engineers have this data and the means to calculate earthwork volumes efficiently. The TRRC will need to review and add additional information in their final easement application (i.e., cut and fill volumes, wetlands mitigation, etc.) to determine if the State's preferred alternate route is indeed the least environmentally sensitive.

3.0 Site #6

As shown on the attached Figure 5, TRRC's proposed alignment crosses Site #6 from the northeast corner and exits through the south central portion of Section 16, T1S, R44E. The concerns with the TRRC's proposed alignment through Site #6 is the apparent

instability of the riverbank located in this area and its potential long term impact to the railroad and county road, if undercutting of the embankment should induce a mass failure (slump or landslide). The proposed route also will require substantial realignment of the Tongue River Road.

As shown on the attached Figure 5, the alternative alignment (alternative 6B) located east of the TRRC's proposed alignment would cross the Tongue River about 2.5 miles north of the TRRC's proposed crossing. Alternative 6B would completely avoid the unstable riverbank, road realignments and school trust land and would be slightly shorter.

It appears that the alternative alignment (6B) would require approximately the same earthwork quantities (depending on the final vertical profile design of both alignments) and right-of-way widths. The crossing of the Tongue River would be approximately the same for both alignments.

Other than parcel severance, both of the two alignments would have similar impacts to land use, wetlands, aquatic resources, endangered plant or animal species, large or small game range or habitat, known cultural sites, or saline/sodic soils.

If detailed evaluations of earthwork cut and fill volumes, residual soil types and erosion/sedimentation are desired for this alternative analysis, TRRC and their engineering consultants should provide the information required to compare the alternatives in more detail. The TRRC will need to review and add additional information in their final easement application (i.e., cut and fill volumes, new bridge location, etc.) to determine if the State's preferred alternate route is indeed the least environmentally sensitive.

4.0 Site # 10

As shown on the attached Figure 6, TRRC's proposed alignment crosses Site #10 in the northern two-thirds of the west half of Section 36, T4S, R43E. The primary concern with the TRRC's proposed alignment through Site #10 is the safety of the proposed at-grade crossing of the railroad and the Tongue River Road because of the geometry of the crossing. The proposed railroad alignment runs northeasterly paralleling the Tongue River Road in the western-most portion of Section 36 before turning north-northeast and crossing the road at a shallow angle. Northbound traffic on the Tongue River Road would have to look almost completely to the rear to check for oncoming train traffic.

As shown on the attached Figure 6, the alternative alignment (10C) would be located west of the TRRC's proposed alignment and would cross only the northwestern corner of Site No. 10. The alternate alignment would stay on the topographic bench above the Tongue River floodplain immediately east of the steep, narrow valleys of the numerous ephemeral drainages to minimize increases in required earthwork. The geometry of the crossing of the Tongue River Road would be almost perpendicular significantly reducing safety concerns. The topography at the alternative crossing location may also lend itself to the efficient use of a grade-separated crossing further reducing vehicle-train safety concerns.

The alternative alignment would be slightly shorter and would require approximately the same earthwork quantities (depending on the final vertical profile design of both alignments) and right-of-way widths. The crossing of the O'Dell Creek valley would be approximately the same for both alignments. Additionally, although the alignment of Alternate 10C would be closer to the Tongue River, the topographic area traversed is substantially the same as that of TRRC's proposed alignment and the resulting increase of sediment transport to the river would be minimal or non-existent.

Other than parcel severance, both of the two alignments would have similar impacts to land use, wetlands, aquatic resources, endangered plant or animal species, large or small game range or habitat, known cultural sites, or saline/sodic soils.

Alternatively, to reduce safety concerns with the at-grade crossing, TRRC's proposed alignment could be used and the Tongue River Road could be relocated to create a more favorable crossing geometry. This would increase the total amount of disturbance, i.e., the disturbed road right-of-way and the section of decommissioned road right-of-way. Additional disturbed area could have increased impacts on vegetation, erosion, sedimentation and storm water hydrology.

If detailed evaluations of earthwork cut and fill volumes, residual soil types and erosion/sedimentation are desired for this alternative analysis, the TRRC and their engineering consultants will make these determinations in their final easement application.

5.0 Site # 15

As shown on the attached Figure 10, TRRC's proposed alignment crosses Site #15 in the southeast corner of Section 11, T8S, R40E. The primary concern with the TRRC's proposed alignment through Site #15 is the possible disturbance of a known Potentially Eligible Cultural site that is reported to be located in or near this property.

As shown on the attached Figure 10, the alternative alignment B would be located east of the TRRC's proposed alignment and would encroach on the Tongue River Reservoir and require a relocation or crossing of the Tongue River Reservoir access road. Construction on Alternative B will place fill in the active and flood pool storage of the Tongue River Reservoir, slightly diminishing normal capacity and flood pool storage. This alternative may also require displacement or removal of home site/cabin site buildings recently built in this area and will also increase proximity impacts (visual, noise, vibration, etc.) to those sites.

Alternate A would be located west of the TRRC's proposed alignment and would avoid the cultural site and the State land. It should be noted that the exact location of the Potentially Eligible Cultural site is not known at this time, but is assumed to be within the proposed TRRC ROW on State land based on the Environmental Report (Radian,1999) and would be partially or wholly buried beneath the fill across Leaf Rock Creek. The alternate alignment A would not be as straight, is slightly longer and would require approximately the same earthwork quantities (depending on the final vertical profile

design of both alignments) and right-of-way widths. The crossing of the Leaf Rock Creek valley would be approximately the same. Additionally, since the alignment of Alternate A would be farther from the Tongue River Reservoir potential sediment transport to the reservoir would be reduced and there would be less visual and noise impacts to cabin sites and recreational users of the reservoir.

Alternate A and the proposed alignment would have similar impacts to land use, wetlands, aquatic resources, endangered plant or animal species, large or small game range or habitat, and saline/sodic soils. Depending on the significance and location of the Potentially Eligible Cultural site, either the proposed route or the Alternate A could be the route with least environmental impact.

6.0 Conclusion

As discussed above, this alternative analysis was performed using the best information available. No engineering calculations were performed as the TRRC's engineers have the appropriate information to perform this work. The TRRC should be allowed to review the preferred alternative routes identified herein and either agree with them or provide justification as to why the TRRC's proposed alignment has fewer environmental impacts.

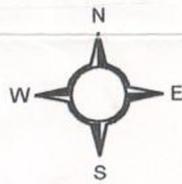
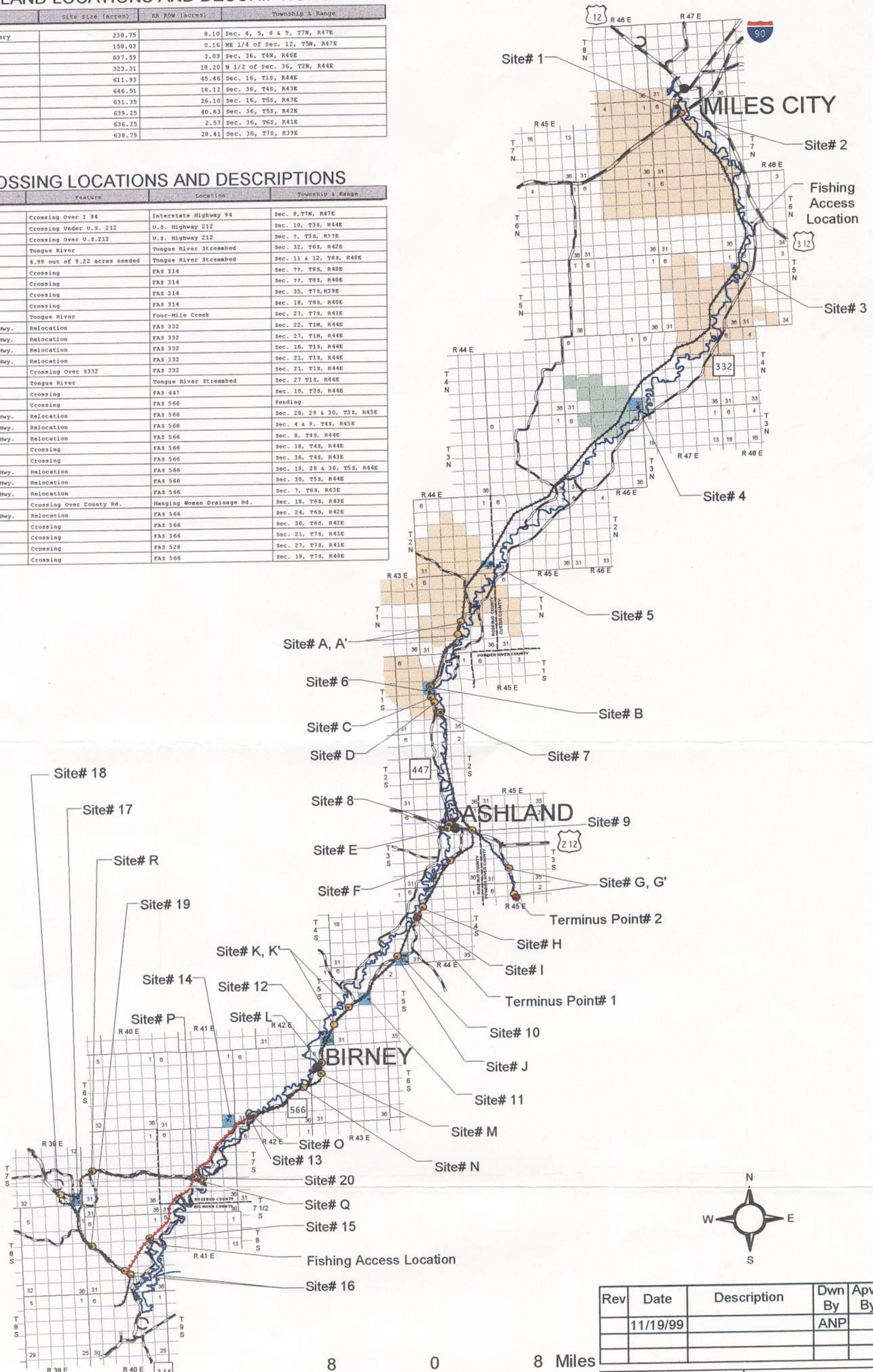
If final design, survey, and engineering result in unanticipated changes in such things as centerline location, road crossings or realignments, bridge design, size of cuts and fills, etc., then during the easement granting process, those changes will have to be evaluated and a determination made if the SEIS adequately anticipated and documented such changes and provided adequate mitigation for impacts resulting from such changes. The TRRC's sequence of submitting state applications after STB approval may require the state to complete a supplemental environmental review document. After consulting with STB on this matter, it may also require STB's concurrence and possible re-opening of the process if a supplemental review identifies new mitigation requirements not in STB's SEIS.

STATE LAND LOCATIONS AND DESCRIPTIONS

Site #	Description	Site size (acres)	RR ROW (acres)	Township & Range
1	Miles City Fish Hatchery	236.75	8.10	Sec. 4, 5, 8 & 9, T7N, R47E
3	School Trust Land	158.03	0.16	NE 1/4 of Sec. 12, T5N, R47E
4	School Trust Land	637.59	3.09	Sec. 36, T4N, R46E
5	School Trust Land	323.31	18.20	N 1/2 of Sec. 36, T2N, R44E
6	School Trust Land	611.93	45.46	Sec. 16, T1S, R44E
10	School Trust Land	646.51	18.12	Sec. 36, T4S, R43E
11	School Trust Land	631.35	26.10	Sec. 16, T5S, R43E
12	School Trust Land	639.25	40.83	Sec. 36, T5S, R42E
14	School Trust Land	636.25	2.57	Sec. 36, T6S, R41E
17	School Trust Land	638.79	28.41	Sec. 36, T7S, R39E

ROAD CROSSING LOCATIONS AND DESCRIPTIONS

Site #	Description	Feature	Location	Township & Range
2	Grade-Separated Crossing	Crossing Over I 94	Interstate Highway 94	Sec. 9, T7N, R47E
8	Grade-Separated Crossing	Crossing Under U.S. 212	U.S. Highway 212	Sec. 10, T3S, R44E
9	Grade-Separated Crossing	Crossing Over U.S.212	U.S. Highway 212	Sec. 7, T3S, R77E
13	Bridge	Tongue River	Tongue River Streambed	Sec. 32, T6S, R42E
15	RR ROW	4.99 out of 9.22 acres needed	Tongue River Streambed	Sec. 11 & 12, T8S, R40E
16	At-Grade Crossing	Crossing	FAS 314	Sec. 77, T8S, R40E
16	At-Grade Crossing	Crossing	FAS 314	Sec. 77, T8S, R40E
18	At-Grade Crossing	Crossing	FAS 314	Sec. 35, T7S, R39E
19	At-Grade Crossing	Crossing	FAS 314	Sec. 18, T8S, R40E
20	Bridge	Tongue River	Four-Mile Creek	Sec. 27, T7N, R41E
A	Relocation of Secondary Hwy.	Relocation	FAS 332	Sec. 22, T1N, R44E
A'	Relocation of Secondary Hwy.	Relocation	FAS 332	Sec. 27, T1N, R44E
B	Relocation of Secondary Hwy.	Relocation	FAS 332	Sec. 16, T1S, R44E
C	Relocation of Secondary Hwy.	Relocation	FAS 332	Sec. 21, T1S, R44E
D	Grade-Separated Crossing	Crossing Over S332	Crossing Over S332	Sec. 21, T1S, R44E
T	Bridge	Tongue River	Tongue River Streambed	Sec. 27, T1S, R44E
E	At-Grade Crossing	Crossing	FAS 447	Sec. 10, T3S, R44E
F	At-Grade Crossing	Crossing	FAS 566	Pending
G	Relocation of Secondary Hwy.	Relocation	FAS 566	Sec. 28, 29 & 30, T3S, R45E
G'	Relocation of Secondary Hwy.	Relocation	FAS 566	Sec. 4 & 9, T4S, R45E
H	Relocation fo Secondary Hwy.	Relocation	FAS 566	Sec. 8, T4S, R44E
I	At-Grade Crossing	Crossing	FAS 566	Sec. 18, T4S, R44E
J	At-Grade Crossing	Crossing	FAS 566	Sec. 36, T4S, R43E
K	Relocation of Secondary Hwy.	Relocation	FAS 566	Sec. 19, 20 & 30, T5S, R44E
K'	Relocation of Secondary Hwy.	Relocation	FAS 566	Sec. 30, T5S, R44E
L	Relocation of Secondary Hwy.	Relocation	FAS 566	Sec. 7, T6S, R43E
M	Grade-Separated Crossing	Crossing Over County Rd.	Hanging Woman Drainage Rd.	Sec. 18, T6S, R43E
N	Relocation of Secondary Hwy.	Relocation	FAS 566	Sec. 24, T6S, R42E
O	At-Grade Crossing	Crossing	FAS 566	Sec. 36, T6S, R42E
P	Grade-Separated Crossing	Crossing	FAS 528	Sec. 21, T7S, R41E
Q	At-Grade Crossing	Crossing	FAS 528	Sec. 27, T7S, R41E
R	At-Grade Crossing	Crossing	FAS 566	Sec. 19, T7S, R40E



8 0 8 Miles

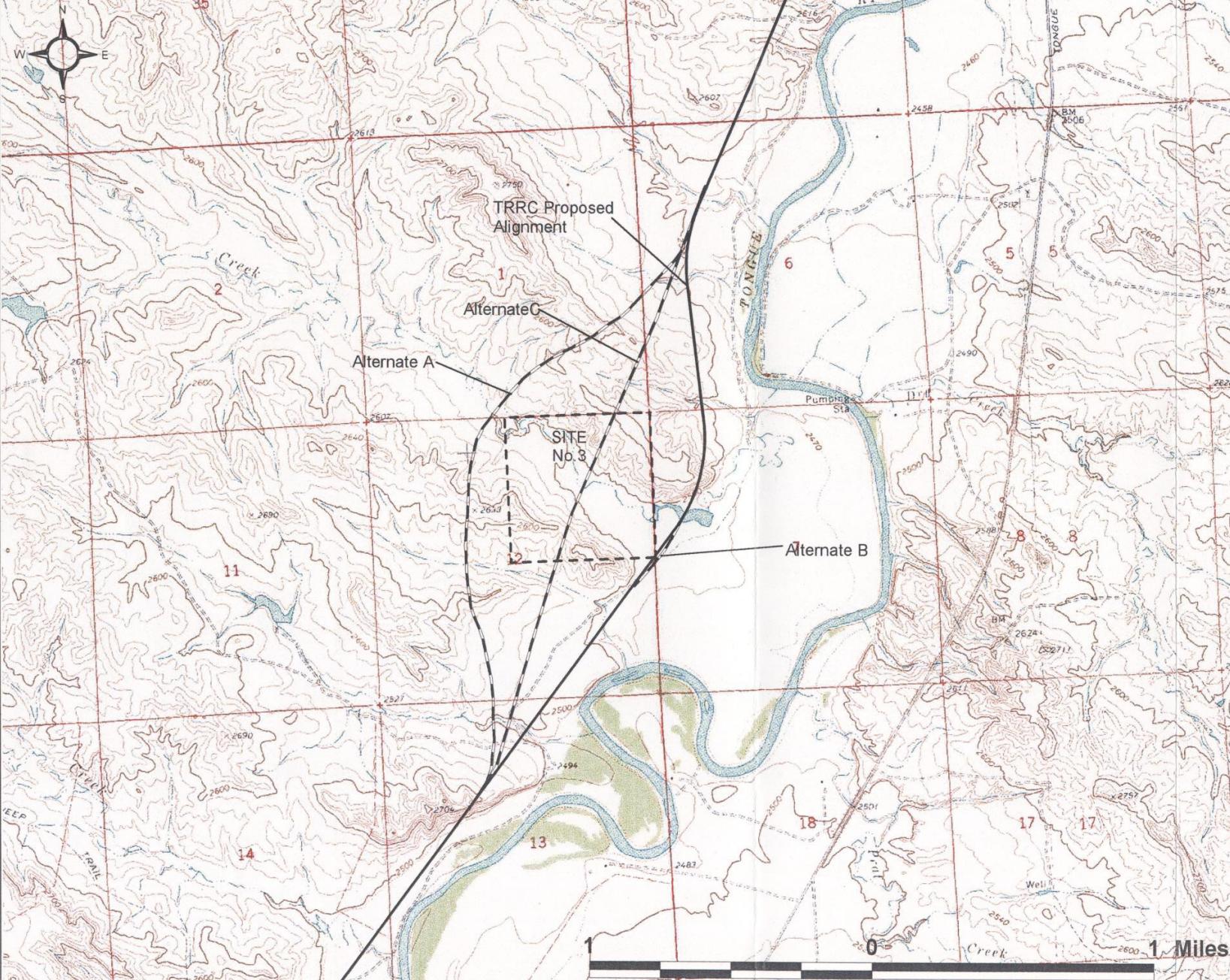
LEGEND

- Road Relocation/Crossing Location
- Proposed Centerline (1998)
- Western Alignment Alternative
- Roads
- Highways
- Tongue River
- County Lines
- Township
- Section Lines
- State Land
- Block Management
- Hirsch Easement

Rev	Date	Description	Dwn By	Apvd By
	11/19/99		ANP	

Date: 11/19/99
 Project No.: 8114
 File: 8114 TRRR
TREC, Inc.

Tongue River Corridor
 Tongue River Railroad
 Figure 1



- NOTES:
1. Section shown is managed by MDNRC. Current lessee is Mark & Debra Lee Fix.
 2. Base map downloaded as MrSID file from NRIS web page on 4/30/99.
 3. TRRC alignment from Mission Engineering; Auto CAD file received electronically on 3/10/99.

- LEGEND:
- Proposed TRRC Alignment
 - Alternate Alignments
 - - State School Trust Land Boundary

Rev	Date	Description	Dwn By	Apvd By

Prepared For:
 Montana Department of
 Natural Resources Conservation

Date: 11/12/99	Alternate Route Analysis
Project #: 8114	Tongue River RR
File: disk1/site3	Site No.3 SEC 12,T5N,R47E

TREC, Inc. **Figure 2**



NOTES:

1. Section shown is managed by MDNRC. Current lessee is Les & Donna Hirsch.
2. Base map downloaded as MrSID file from NRIS web page on 4/30/99.
3. TRRC alignment from Mission Engineering; Auto CAD file received electronically on 3/10/99.

LEGEND:

- Proposed TRRC Alignment
- Alternate Alignments
- State School Trust Land Boundary

Rev	Date	Description	Dwn By	Apvd By

Prepared For:
 Montana Department of
 Natural Resources & Conservation

Date: 11/12/99	Alternate Route Analysis
Project #: 8114	Tongue River RR
File: disk1/site4	Site No. 4 SEC 36, T4N, R46E
TREC, Inc.	Figure 3



- NOTES:**
1. Section shown is managed by MDNRC. Current lessee is Alvin & Elizabeth Carus & Arthur & Sophie Olson.
 2. Base map downloaded as MrSID file from NRIS web page on 4/30/99.
 3. TRRC alignment from Mission Engineering; Auto CAD file received electronically on 3/10/99.

- LEGEND:**
- Proposed TRRC Alignment
 - Alternate Alignments
 - - State School Trust Land Boundary

Rev	Date	Description	Dwn By	Apvd By

Prepared For:
 Montana Department of
 Natural Resources & Conservation

Date: 11/12/99	Alternate Route Analysis
Project #: 8114	Tongue River RR
File: disk2/site5	Site No.5 SEC 36,T2N,R44E

TREC, Inc. **Figure 4**



NOTES:

1. Section shown is managed by MDNRC. Current lessee is the Rocker Six Cattle Co.
2. Base map downloaded as MrSID file from NRIS web page on 4/30/99.
3. TRRC alignment from Mission Engineering; Auto CAD file received electronically on 3/10/99.

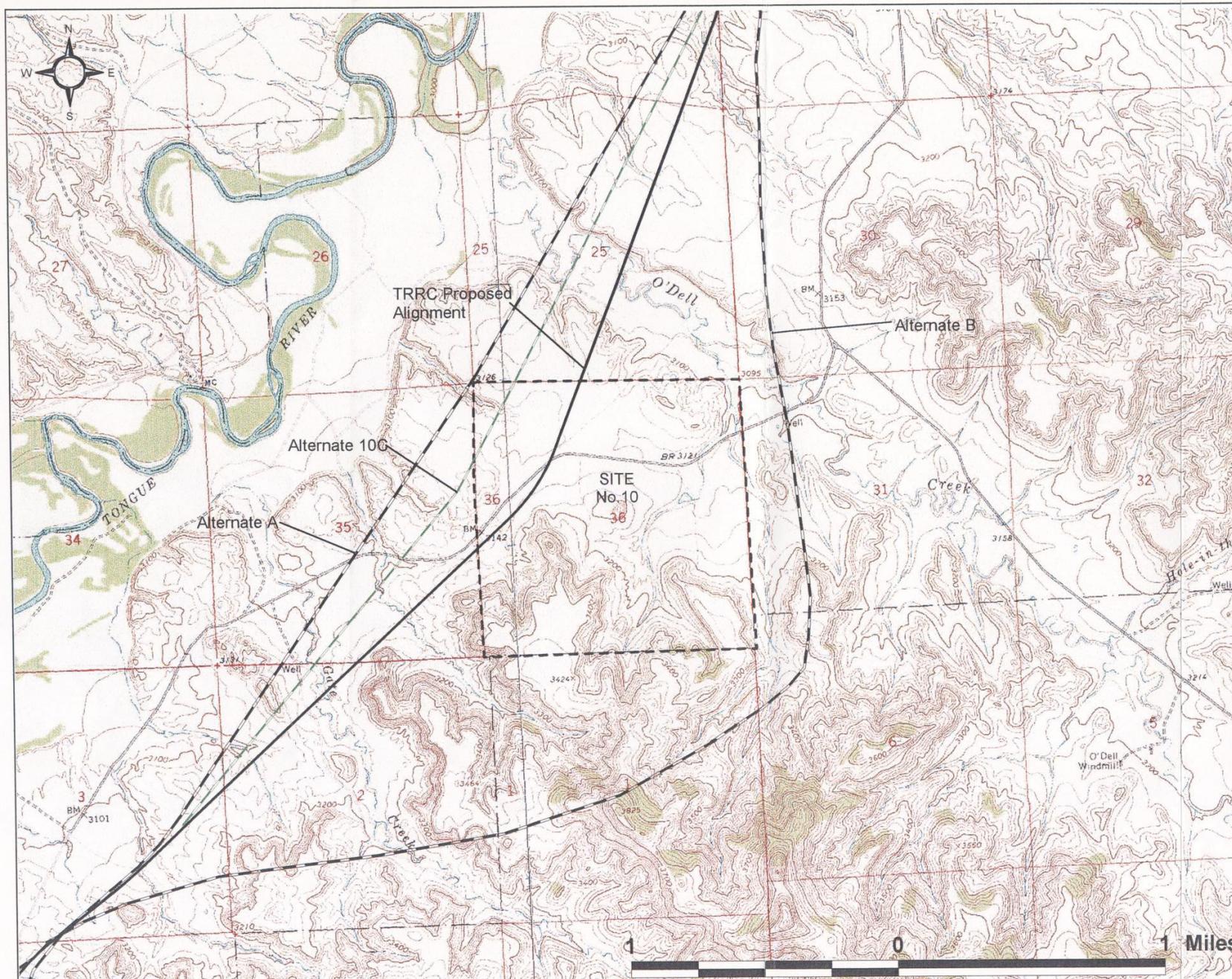
LEGEND:

- Proposed TRRC Alignment
- Alternate Alignments
- State School Trust Land Boundary

Rev	Date	Description	Dwn By	Apvd By

Prepared For:
 Montana Department of
 Natural Resources & Conservation

Date: 11/12/99	Alternate Route Analysis Tongue River RR
Project: 8114	
File: Disk2/site6	Site No.6 SEC 16,T1S,R44E
TREC, Inc.	Figure 5



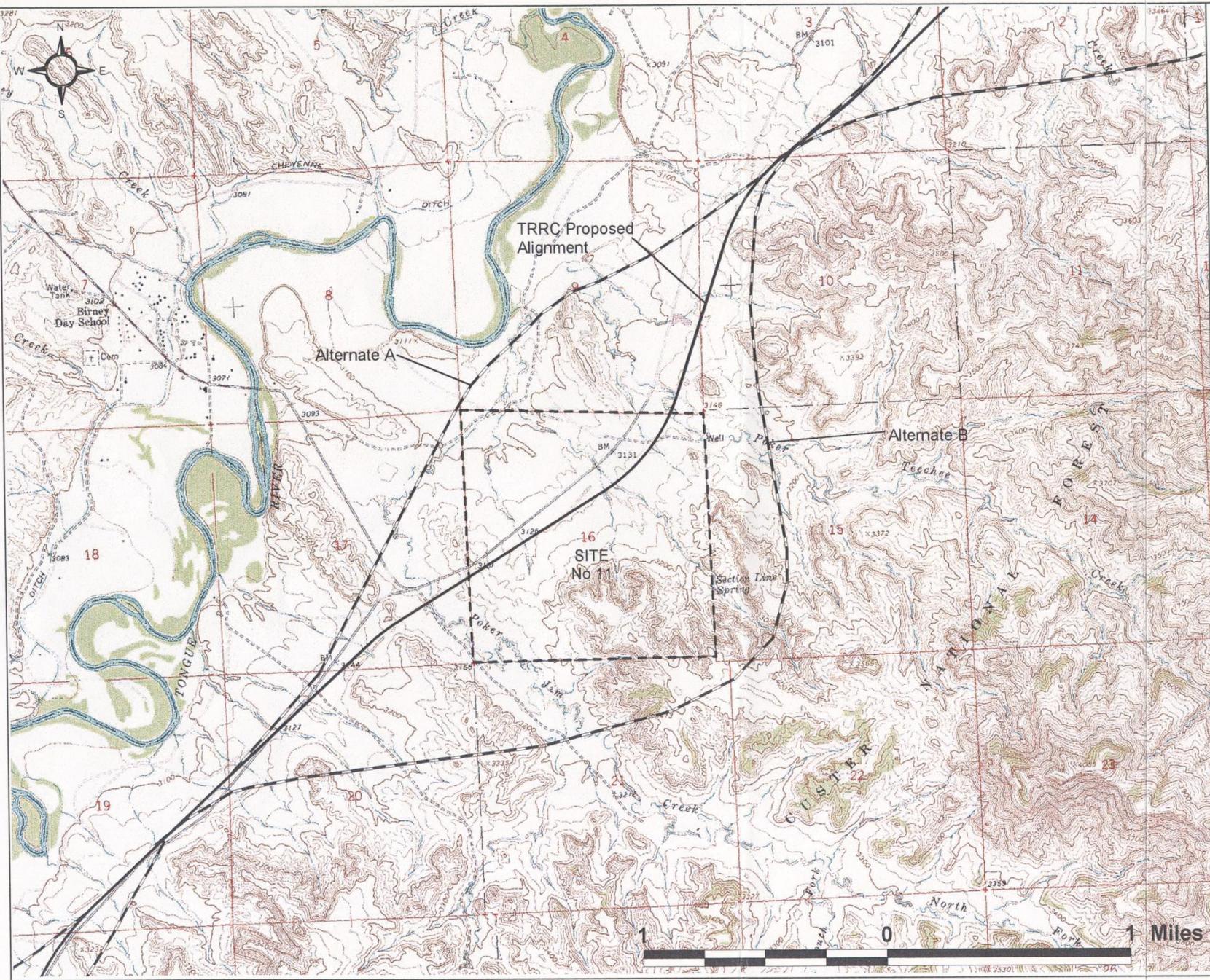
- NOTES:**
1. Section shown is managed by MDNRC. Current lessee is the Nance Cattle Co.
 2. Base map downloaded as MrSID file from NRIS web page on 4/30/99.
 3. TRRC alignment from Mission Engineering; Auto CAD file received electronically on 3/10/99.

- LEGEND:**
- Proposed TRRC Alignment
 - - - Alternate Alignments
 - . - . State School Trust Land Boundary

Rev	Date	Description	Dwn By	Apvd By

Prepared For:
 Montana Department of
 Natural Resources & Conservation

Date: 11/12/99	Alternate Route Analysis
Project: 8114	Tongue River RR
File: disk3/site10	Site No. 10 SEC 36, T4S, R43E
TREC, Inc.	Figure 6



NOTES:

1. Section shown is managed by MDNRC. Current lessee is the Nance Cattle Co.
2. Base map downloaded as MrSID file from NRIS web page on 4/30/99.
3. TRRC alignment from Mission Engineering; Auto CAD file received electronically on 3/10/99.

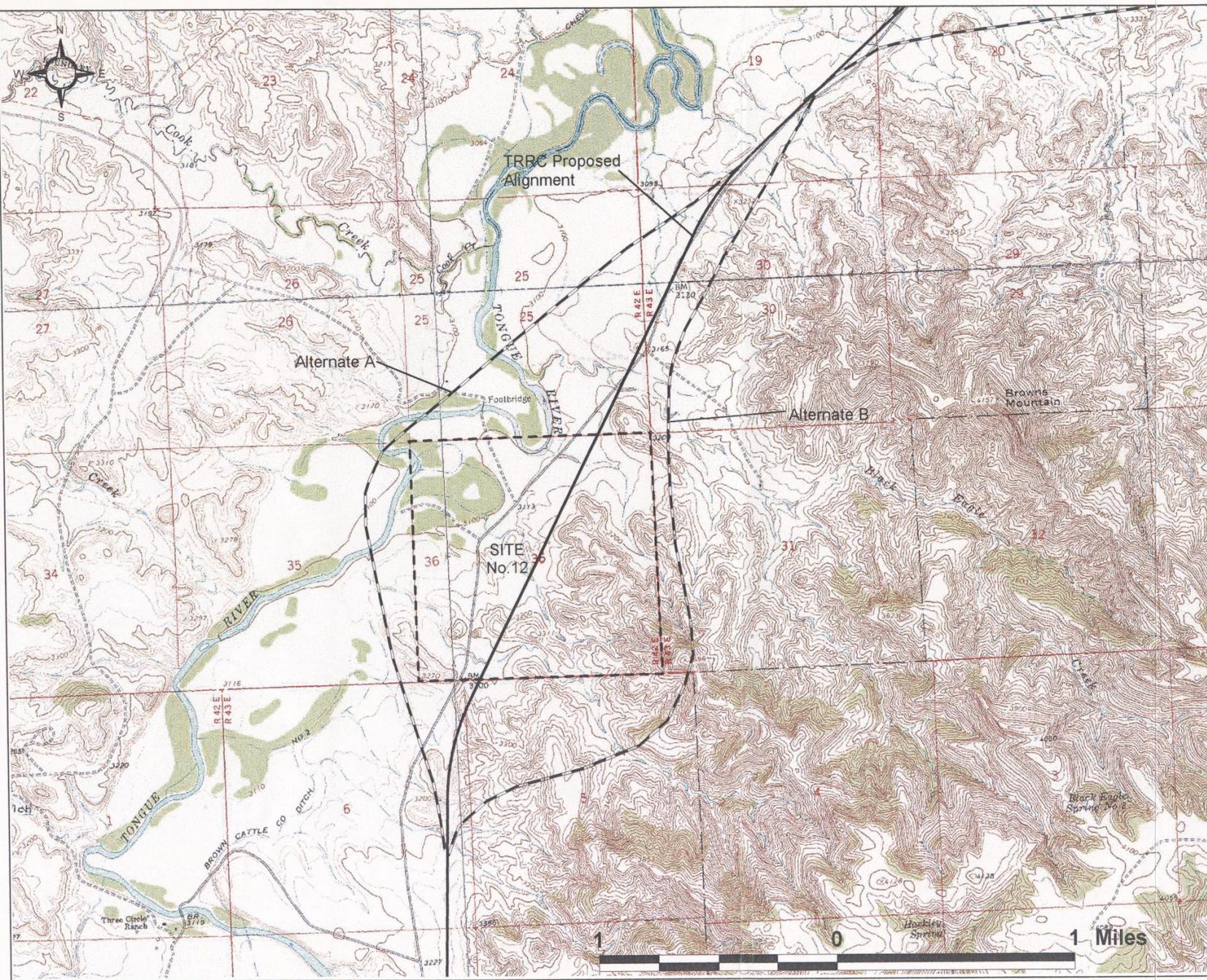
LEGEND:

- Proposed TRRC Alignment
- Alternate Alignments
- - State School Trust Land Boundary

Rev	Date	Description	Dwn By	Apvd By

Prepared For:
 Montana Department of
 Natural Resources & Conservation

Date: 11/12/29	Alternate Route Analysis Tongue River RR
Project #:8114	
File: disk3/site11	Site No.11 SEC 16,T5S,R43E
TREC, Inc.	Figure 7



- NOTES:**
1. Section shown is managed by MDNRC. Current lessee is the Brown Cattle Co./3 Circle Ranch.
 2. Base map downloaded as MrSID file from NRIS web page on 4/30/99.
 3. TRRC alignment from Mission Engineering; Auto CAD file received electronically on 3/10/99.

- LEGEND:**
- Proposed TRRC Alignment
 - - - Alternate Alignments
 - . - . State School Trust Land Boundary

Rev	Date	Description	Dwn By	Apvd By

Prepared For:
 Montana Department of
 Natural Resources & Conservation

Date: 11/12/99	Alternate Route Analysis
Project #: 8114	Tongue River RR
File: disk3/site12	Site No.12 SEC 36, T5S, R42E
TREC, Inc.	Figure 8



NOTES:

1. Section shown is managed by MDNRC. Current lessee is the VBar C Cattle Co. - Mr. William McKinney.
2. Base map downloaded as MrSID file from NRIS web page on 4/30/99.
3. TRRC alignment from Mission Engineering; Auto CAD file received electronically on 3/10/99.

LEGEND:

- Proposed TRRC Alignment
- - - Alternate Alignments
- - - State School Trust Land Boundary
- Four-Mile Creek Alignment

Rev	Date	Description	Dwn By	Apvd By

Prepared For:
 Montana Department of
 Natural Resources & Conservation

Date: 11/12/99	Alternate Route Analysis Tongue River RR
Project #: 8114	
File: disk4/site14	Site No. 14 SEC 36, T6S, R41E
TREC, Inc.	Figure 9



- NOTES:
1. Section shown is managed by MDNRC Water Resources Division.
 2. Base map downloaded as MrSID file from NRIS web page on 4/30/99.
 3. TRRC alignment from Mission Engineering; Auto CAD file received electronically on 3/10/99.

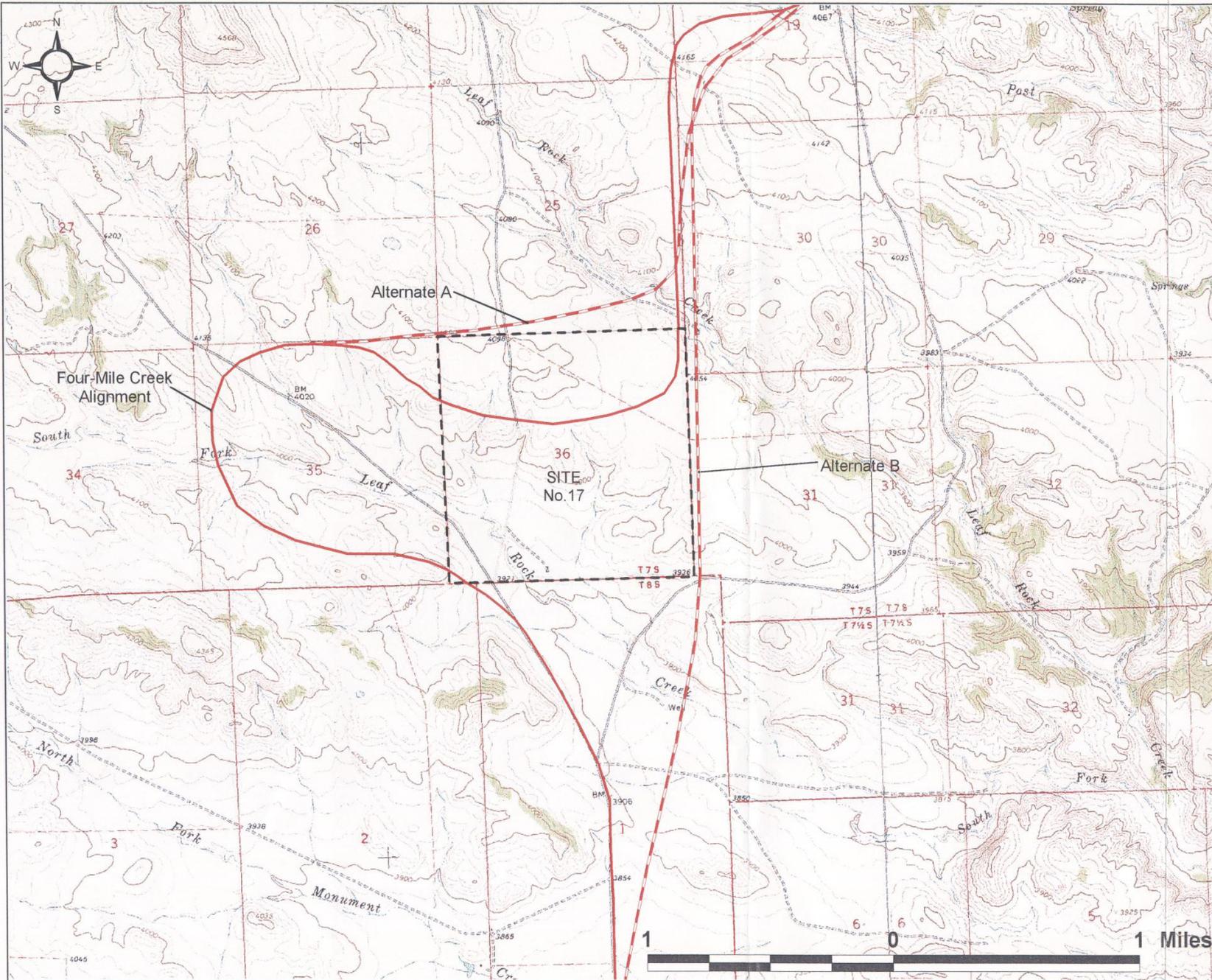
- LEGEND:
- Proposed TRRC Alignment
 - - - Alternate Alignments
 - - - Water Resources Division Land Approximate Boundary

Rev	Date	Description	Dwn By	Apvd By

Prepared For:
 Montana Department of
 Natural Resources & Conservation

Date: 11/12/99	Alternate Route Analysis
Project: 8114	Tongue River RR
File: Disk4/site15	Site No. 15 SEC 12, T8S, R40E

TREC, Inc. **Figure 10**



NOTES:

1. Section shown is managed by MDNRC. Current lessee is Tom Adsit.
2. Base map downloaded as MrSID file from NRIS web page on 4/30/99.
3. TRRC alignment from Mission Engineering; Auto CAD file received electronically on 3/10/99.

LEGEND:

- Four-Mile Creek Alignment
- - - Alternate Alignments
- - - State School Trust Land Boundary

Rev	Date	Description	Dwn By	Apvd By

Prepared For:
 Montana Department of
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Date: 11/12/99	Alternate Route Analysis
Project: 8114	Tongue River RR
File: Disk4/site17	Site No.17 SEC 36,T7S,R39E
TREC, Inc.	Figure 11

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Chapter 6: Distribution of the Final SEIS

The Board's regulations identify the types of agencies and officials to receive the environmental documentation (49 CFR Part 1105.7). Additionally, CEQ regulations identify appropriate distribution (40 CFR Part 1500 to 1508). This section lists the agencies, officials, and other interested persons receiving the Final SEIS. SEA concurrently mailed the Final SEIS to Federal, state, and local agencies, elected officials, other interested persons, and the repositories as listed below.

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Chapter 8: Glossary

$\mu\text{g}/\text{m}^3$	microns per cubic meter
AAM	Annual Arithmetic Mean
AASHTO	American Association of State Highway and Transportation Officials
ACEC	Area of Critical Environmental Concern
ACHP	Advisory Council of Historic Preservation
ADHT	average daily highway traffic
ADTT	average daily train traffic
af	acre-feet
afy	acre-feet per year
APD	Application for Permit to Drill
APE	area of potential effects
AREMA	American Railway Engineering and Maintenance-of-Way Association
ARM	Administrative Rules of Montana
ARPA	Archaeological Resources Protection Act of 1979
AVF	Alluvial Valley Floor
BA	Biological Assessment
BACT	Best Available Control Technology
BIA	Bureau of Indian Affairs
BLM	U.S. Department of the Interior, Bureau of Land Management
BLP	Buoyant Line Program
BMA	Block Management Area
BMPs	best management practices
BNSF	Burlington Northern Santa Fe Railroad Company
Board	Surface Transportation Board
BTUs	British Thermal Units
CBM	Coal Bed Methane
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
cfs	cubic feet per second
Corps	U.S. Army Corps of Engineers
CWA	Clean Water Act
dB	decibels
dba	adjusted decibels
DEIS	Draft Environmental Impact Statement
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
ESA	Federal Endangered Species Act of 1973
FEIS	Final Environmental Impact Statement
FHWA	Federal Highway Administration
FLPMA	Federal Land Policy and Management Act of 1976
FONSI	Finding of No Significant Impacts
FRA	Federal Railroad Administration
FY	Fiscal Year

gpm	gallons per minute
HUD	U.S. Department of Housing and Urban Development
ICC	Interstate Commerce Commission
ICCTA	Interstate Commerce Commission Termination Act of 1995
ISC	Industrial Source Complex
LARRS	Livestock and Range Research Station
L _{dn}	day-night noise levels
MAAQS	Montana Ambient Air Quality Standards
MBEWG	Montana Bald Eagle Working Group
MCFH	Miles City Fish Hatchery
MDEQ	Montana Department of Environmental Quality
MDH	Montana Department of Highways
MDT	Montana Department of Transportation
MEPA	Montana Environmental Policy Act
MOA	Memorandum of Agreement
mph	miles per hour
MPDES	Montana Pollutant Discharge Elimination System
MT DNRC	Montana Department of Natural Resources and Conservation
MT	Montana
MT SHPO	Montana State Historic Preservation Office
MT DFWP	Montana Department of Fish, Wildlife, and Parks
MT NHP	Montana National Heritage Program
MT DSL	Montana Department of State Lands
MWQA	Montana Water Quality Act
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act of 1990
NAPAP	National Acid Precipitation Assessment Program
NCHRP	National Cooperative Highway Research Program
NEPA	National Environmental Policy Act of 1969
NETL	National Energy Technology Laboratory
NHPA	National Historic Preservation Act of 1996
NOI	Notice of Intent
NPRC	Northern Plains Resource Council, Inc.
NRCS	National Resource Conservation Service
NRHP	National Register of Historic Places
PA	Programmatic Agreement
PM	particulate matter
POD	Plan of Development
PRB	Powder River Basin
PSD	prevention of significant deterioration
ROD	Record of Decision
ROW	Right-of-Way
RSPA	Research and Special Programs Administration
SCCC	Spring Creek Coal Company
SEA	Section of Environmental Analysis
SEE	Section of Energy and Environment

SEIS	Supplemental Environmental Impact Statement
SMCRA	Surface Mining Control and Reclamation Act
SHPO	State Historic Preservation Office
SO ₂	sulfur dioxide
Task Force	Multi-agency/Railroad Task Force
TCP	Traditional Cultural Property
TMDL	total maximum daily load (of sediments)
TRRC	Tongue River Railroad Company, Inc.
TRRC I	<u>Tongue River I</u>
TRRC II	<u>Tongue River II</u>
TRRC III	<u>Tongue River III</u>
TSS	total suspended solids
USDA	U.S. Department of Agriculture
USDOT	U.S. Department of Transportation
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UT	Utah
UTU	United Transportation Union
VPD	vehicles per day
WY	Wyoming

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